

**FACTORS AFFECTING CONSUMER ADOPTION OF INTERNET
BANKING IN MALAWI**

MASTER OF SCIENCE IN INFORMATICS

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MASTER OF SCIENCE IN INFORMATICS

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DECLARATION

I, the undersigned hereby declare that this thesis is my own original work which has not been submitted to any other institution for similar purposes. Where other people's work has been used acknowledgements have been made.

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CERTIFICATE OF APPROVAL

The undersigned certify that this thesis represents the student's own work and effort and has been submitted with our approval.

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DEDICATION

This research work is dedicated to my exceptional wife, Tamikani and my son Chiwemi for believing in me. It is with your love, support, guidance and encouragement that I have been able to achieve this goal.

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ABSTRACT

Internet banking is relatively new technology in Malawi. The aim of this research was to investigate factors that affect the adoption of Internet banking by consumers in Malawi. The study was motivated by the fact that most commercial banks had introduced Internet banking services but adoption levels remain very low as evidenced by long queues in banking halls and report by the Reserve Bank of Malawi (RBM), that Internet banking was the most underutilized banking delivery channel in Malawi. Understanding factors that affect the adoption of Internet banking will allow banks to create solutions and plans that attract customers to their Internet banking services, thus enabling them to gain a greater share in the banking industry market. Research data was collected using a questionnaire from 257 bank customers from Lilongwe and Blantyre. Collected data included social demographic characteristics, consumer perception and attitudes towards Internet banking. The data was analyzed using descriptive statistics and regression analysis in STATA version 11. Graphs and percentages were used to present the results. The study found relationship between social demographic factors, perception, attitude and adoption of Internet banking in Malawi. The theoretical contributions and the practical implications of the findings are that bank managers should direct Internet banking marketing programs towards the middle aged, higher income and well educated customers. Marketing programs should focus on changing consumer attitude towards technology - Internet banking.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of variance
APWG	Anti-Phishing Working Group
ATB	Attitude Towards Behaviour
ATM	Auto Teller Machine
BAM	Bankers Association of Malawi
BFA	Bankable Frontier Association
BI	Behaviour Intention
DTPB	Decomposed Theory of Planned Behaviour
E-banking	Electronic banking
E-commerce	Electronic commerce
E-delivery	Electronic delivery
E-payment	Electronic payment
E-vendor	Electronic vendor
GUI	Graphical User Interface
IB	Internet Banking
IBA	Internet Banking Awareness
ICT	Information and Communication Technology
IDC	International Data Corporation
IDT	Innovation Diffusion Theory
IFMIS	Integrated Financial Management Information System

IMF	International Monetary Fund
ISP	Internet Service Provider
IT	Information Technology
MWK	Malawi Kwacha
OBM	Opportunity Bank Malawi
PBC	Perceived Behavioral Control
PEOU	Perceived Ease of Use
PSEC	Perceived Security and Trust
PU	Perceived Usefulness
RBM	Reserve Bank of Malawi
SEM	Structural Equation Modelling
SN	Subjective Norms
SOL	Social Influence
TAM	Technology Acceptance Model
TOEM	Technology-Organization Environment Model
TPB	Theory of Planned Behaviour
TRA	Theory of Reasoned Action
USA	United States of America
USD	United States Dollar
VIF	Variance Inflation Factor
WWW	World Wide Web

Chapter 1

Introduction

Operations and delivery of services in many organizations are increasingly dependent on information systems, which highly rely on computers and the Internet. In recent years, most financial institutions in Malawi such as banks started using innovative technologies to increase efficiency and effectiveness in service delivery to provide easier interaction with their customers.

From 1990s, there has been a fundamental shift in banking service delivery methods to include electronic methods (Black, 2002). Consumers in Malawi use Auto Teller Machine (ATMs) and other forms of electronic banking channels, but adoption and use of Internet banking is very low among consumers in Malawi. Slow adoption of Internet banking by bank customers in Malawi puzzles many bank managers and researchers. Research has been conducted in many developed countries to determine the factors that affect adoption and use of Internet banking (Cheng, 2006; Chung & Paynter, 2002). But not much research has been done in less developed countries like Malawi. Although poor economies, education, and infrastructure are obvious reasons for slow adoption of innovation and technology in developing countries, there are other factors such as security and trust that may affect Internet banking adoption (Baraghani, 2007).

Innovation is a key driver in development, but it is not adopted easily. Some people adopt innovation more quickly than others while others never adopt it at all. This work investigated why some consumers are slow or never adopt innovations such as Internet banking. The work analyzed factors that affect adoption of Internet banking in Malawi. It also suggested possible solutions to bank managers to influence consumers in adopting and using Internet banking.

1.1 Background to the study

Information Technology (IT) is dominant in all banks in Malawi as they heavily rely on computer based information systems to process and deliver services. Services like checking balance, bill payment and application for other banking services can be done using Internet banking. Because of this, banks have become increasingly dependent on the availability, reliability and integrity of Internet banking solutions. Information Technology also provides a way of differentiating banking products and services (Baraghani, 2007).

The banking industry is saturated and competition is very high. Malawi has ten commercial banks. Two banks were sold because of stiff competition in the country in 2015. In a drive to capture a large market share, some banks construct more branches to enlarge their geographical presence. Other banks however, have used more revolutionary approaches to deliver services using the Internet (Baraghani, 2007).

The rapid growth of the Internet usage is an opportunity for banks to use it as another service delivery channel. The Internet is now considered as the best strategic tool that has completely changed the way banks do business, deliver their services and

compete against each other (Nehmzow, 1997; Seitz & Stickel, 1998). Internet has made many banks to rethink the way they conduct business, in order to stay competitive.

Today customers want and demand convenience, flexibility and user-friendly financial management tools (Birch & Young, 1997) which traditional banking channels do not provide (Lee, 2009). Internet banking has many potential benefits to both consumers and banks. The advantages include reduced operation cost on the part of the bank and convenience for the customer. Despite so much hype, the adoption and usage of Internet banking by bank customers is limited in Malawi. Therefore, the following questions arise;

1. Why are consumers not adopting or using Internet banking services despite its numerous benefits?
2. What type of customers adopt and use Internet banking?
3. What can banks do to improve consumer adoption and usage of Internet banking?

1.2 Problem statement

Despite efforts by banks in Malawi to implement Information Technology to deliver services, there was still low Internet banking adoption as evidenced by long queues and waiting time in banks. Because of underutilization of Internet banking infrastructure, banks which had invested in online banking continue to incur high costs as a result of increasing number of staff to serve ever increasing number of customers who choose to physically visit the bank rather than get services online.

Hence, this work investigated the factors for slow Internet banking adoption and made recommendations on how to improve adoption of Internet banking in Malawi.

1.3 The Research question

The following research question was investigated by this study. What are the factors affecting adoption of Internet banking as a service delivery channel in Malawi? In answering this question the following sub-questions were answered too.

- 1 What are the characteristics of Internet banking users in Malawi?
- 2 What can banks do to influence their customers to adopt Internet banking as a service delivery channel?

1.4 Objectives of the research

The main aim of this work was to investigate the factors which affect Internet banking adoption and usage in Malawi. The following were the specific objectives:

1. To identify the factors that influence adoption and use of Internet banking among consumers in Malawi.
2. To investigate the characteristics of users and non-users of Internet banking in Malawi.
3. To measure the association between the factors (social demographic factors, perception and attitude) and the adoption of Internet banking.

1.5 Key assumptions

Different factors affect consumer behavior. In this research, the researcher made the following assumptions as factors that may affect consumer adoption of Internet banking in Malawi.

- i. Internet banking service awareness has positive effect on Internet banking adoption.
- ii. Perceived usefulness will have a positive effect on behavior intention to use Internet banking.
- iii. Perceived ease of use will have a positive influence on behavior intention to use Internet banking.
- iv. Customer confidence in the security systems provided by the Internet banking technology has a positive effect on intention to use Internet banking.
- v. Male customers adopt Internet banking more than female customers because men are often risk takers. Thus they are quick to try out new technology than female.
- vi. There is a difference between Internet banking adoptors and non adoptors in terms of age. This assumption is based on the fact that young people are technology savvy and eager to learn and use new things.
- vii. Internet banking adoptors have higher education than non adoptors. This assumption was made because using technology requires some level of cognitive skills. Those with high education have reasonable level of such skills.
- viii. Those with high income adopts Internet banking more than those with low income. In less developed countries like Malawi, the highly educated tend to get relatively good jobs which in turn gives them more than average income.

1.6 Justification

Statistics provided by the Reserve Bank of Malawi (RBM) indicated that Internet banking was highly underutilized in Malawi (RBM, 2015). Out of 229, 924 daily average transactions made in April, 2015 only 1,471 transactions were made via Internet banking, translating to 0.6% and average transaction value was MWK579.6 million out of MWK31,684.1 Million. Representing just 1.8% (RBM, 2015). Although studies had examined the adoption of Internet banking in other countries, most studies were specific to geographical area, making it difficult to draw general conclusion. Even with the same type of technology some results conflict from one individual to another or from one area to another.

Internet banking is relatively new innovation in Malawi. No research has been reported in Malawi to investigate factors affecting the adoption of technology in general and Internet banking in particular. Innovation is an investment for the banks and if not fully utilized by its intended users then the banks cannot fully benefit from it. If we understand why customers adopt and use an innovation, we can possibly draw conclusions on reasons for the adoption of future technological innovations. This can help to assess potential impact and make it easier to pursue certain investments. Success of technological investment depends on the degree of customer acceptance and using the technology (Suorantia & Mattila, 2004).

Understanding the factors that make a technology to be likely adopted and who could be potential adopters can help banks to target the customers in a more efficient way thereby speeding up the diffusion process. An understanding of how demographic characteristics, social influence, consumer perception and attitudes influence the

adoption and usage of Internet banking help banks to create packaged solutions and strategies that attract customers. This knowledge can help banks increase their market share.

There is limited knowledge in Malawi on factors that affect adoption of technology like Internet banking. Much research on Internet banking has focused on developed countries in Europe and America, and research on Internet banking in less developed countries receives less attention (Suorantia & Mattila, 2004; Puschel, Mazzo, & Hernandez, 2010). In addition, there is no reported work done in Malawi that has investigated Internet banking adoption and usage hence the need for this study. This research will close this knowledge gap.

1.7 Contribution of the research

The study will provide understanding in the theoretical constructs of frameworks in Internet banking adoption and use in the Malawian context. It will also help banks to gain more knowledge of their Internet banking clients to adjust their marketing programs, so as to reach a wider range of population. In addition, the study will uncover barriers that are preventing clients from effectively using Internet banking.

By addressing barriers to Internet banking adoption and use, efficiency in conducting business and managing finances will improve. This is critical to economic growth and fundamental to development. The amount of money and time saved in travelling to the bank and standing on queues could be applied elsewhere to speed up economic development. This work also contributes to the growth of scientific knowledge in

understanding factors that affect adoption and usage of technology in less developed countries like Malawi.

1.8 Ethical issues

Primary aim of ethical issues in a research is to ensure that no one is harmed or suffers adverse consequences from research activities. Confidentiality was one of the ethical issues in this study. Banks strive to maintain appropriate systems to achieve desired customer information security and confidentiality.

To maintain confidentiality, all personal and confidential information about bank customers was disguised so that they are not revealed. It was ensured that client information was used only for authorized purposes relating to the study, and only shared with authorized persons in a proper and secure manner. The research gathered personal information like income, age, education levels, attitudes, banking activities and views. To address the ethical issues, the following ethical considerations were followed:

1. Written permission from University of Malawi to conduct the study was obtained. (Appendix A)
2. Individual participants were asked to consent to participate in the study (Appendix B).
3. Respondents were selected for their willingness to participate without compulsion, and there were no risks to the respondents for participating in the research.

4. All sensitive findings from the study were dealt with in a manner not to compromise the security and confidentiality of participating individuals and banks. Names and account identification were disguised.

1.9 Chapter summary

Internet banking is one of the new technologies implemented by banks in Malawi as one of the channels for services delivery. Although this delivery channel is cheap, convenient and time saving, there was still low usage among consumers. Because of underutilization, banks that had invested in online banking continue to incur high costs. The aim of this work was to identify key factors which affect Internet banking adoption and usage in Malawi by bank customers. Besides contributing towards the growth of scientific knowledge in understanding factors that affect adoption and use of technology in less developed countries, the work also help banks in marketing Internet banking services to the Malawian population.

Chapter 2

Literature Review

Introduction

This chapter presents an extensive review of literature on adoption and use of Internet banking. The chapter synthesizes work done by others in relation to Internet banking adoption and use. Section 2.1 and 2.2 gives a general background on banking sector and how technology has affected banking industry in Malawi. Advantages of Internet banking, adoption theories and theoretical framework are discussed in Sections 2.3 through section 2.6. The chapter concludes with a proposed theoretical model in sections 2.7. The theoretical framework identified formed the foundation of this work and guided the analysis.

2.1 Banking in Malawi

Malawi is a developing country. Only 9.9% adults (18 years and above) have access to pipe water and 9.5% have access to electricity for cooking and lighting (FinScope, 2014). As of 2014, adult population in Malawi was at 8 million and 81% of these were living in rural areas. Agriculture remained most important source of income (CIA, 2015) for many, and 45% of the adult population earned less than MWK 10,000 a month (FinScope, 2014).

According to the International Monetary Fund's (IMF) Financial Access Survey, in 2013 there were about three commercial bank branches per 1,000 km² and about three commercial bank branches per 100,000 adults in Malawi. At that time, there were about four ATMs per 1,000 km² and nearly five ATMs per 100,000 adults (IMF, 2015). Findings from another Consumer Survey in Malawi conducted between November, 2013 and March 2014 showed that only 27% of adults had formal bank account with a financial institution. The same report showed that only 10% reported receiving salary (FinScope, 2014). In addition, other financial inclusion challenges included, poor telecommunication infrastructure, low literacy level, low income and low banking penetration, especially in rural areas (FinScope, 2014).

The high costs of infrastructure development in rural areas has led to an unwillingness by banks to invest in the country's remote regions. Most commercial banks are concentrated in the urban areas making banking services difficult and expensive to obtain by majority rural population. On average, in 2014 time taken to reach a bank branch was 77 minutes (FinScope, 2014). This presented a very big opportunity for both banks and Consumers to utilize Internet banking.

Currently Malawi has ten commercial banks, namely: CDH Bank, Eco Bank, FDH Bank, First Merchant Bank, National Bank of Malawi, NBS bank, Ned Bank, New Finance Bank, Opportunity Bank Malawi (OBM) and Standard Bank. Table 2:1 provides a summary of banks based on their capital base and profitability. The first four banks are considered big and were purposively selected for the study.

Table 2:1: Summary of commercial banks in Malawi

Bank Name	Brief history	2015 capital and profit
National bank	Nation bank of Malawi is the largest bank in Malawi and was established in 1971. http://www.natbank.co.mw/	The bank made profit of MWK13.36 billion in 2015, and assets were reported at MWK 288.9 billion.
Standard bank	Standard bank was registered in 1969 as commercial bank. It is the second largest in terms of capital and profitability. http://www.standardbank.co.mw/	In the year 2015, the bank reported MWK13.4 billion profits and assets were reported at MWK 229.2 billion.
ECO bank	It commenced its operations in Malawi in 2008 after acquiring the Loita bank. It is owned by ECO bank Africa which is a pan-African bank. https://www.ecobank.com/mw/	In 2015 the bank made MWK9.2 billion in revenues and profit after tax was MWK2.4 billion. Its total assets base was reports at MWK 98 billion.
FDH bank	FDH bank was established in 2007. http://www.fdh.co.mw/	The bank reported MWK1.66 billion profit after tax in 2015 and total assets were at MWK69.9 billion.
Ned Bank	Ned bank (Malawi) Limited is 98.82% owned subsidiary of Ned bank Group Investments Africa, a company incorporated in Mauritius. http://www.nedbank.co.mw/	The bank reported profit of MWK156.0 million in 2015 and total assets were at MWK28.2 billion
NBS Bank	The Bank was incorporated as a limited company in 2003 and started its commercial banking operations on 1st July 2004. https://www.nbs.mw/	The bank reported a loss of MWK195.4 million in 2015 and total assets were at MWK83.9 billion
Opportunity Bank Malawi	Opportunity Bank Malawi (OBM) started operating in Malawi in 2003. http://www.oibm.mw/	In 2015, the bank had MWK22.5 billion worth of assets and made a loss of MWK2.7 billion.
New Finance Bank	Incorporated in 2014 as a commercial bank. http://www.nfb.mw/	The bank reported a loss of MWK793.2 million in 2015. and total assets were at MWK5.6 billion
CDH Investment bank	Opened for business in 2012 following the conversion from Continental Discount House Limited (CDH). https://cdh-malawi.com/	Data not available
First Merchant bank	Founded in 1995. http://www.fmbmalawi.com/	Data not available

National Bank, Standard Bank, Eco bank and FDH Bank are considered big in Malawi. These banks have made many changes in service delivery methods with the aim of improving their service quality. Not very long ago, these banks were serving customers through the manual system which resulted in long queues in the banking halls, but now they have implemented self-service channels like Internet banking to improve service delivery.

Despite the implementation of e-banking, (the use of computers and other electronic devices to carry out traditional banking services) and e-payment (means of making payments for goods and services through an electronic medium like Internet or Mobile phone without the use of check or cash) channels in Malawi, high illiteracy levels especially among rural population makes Malawi a cash based society. Majority of transactions are on cash basis, which appear not to have any cost, happen immediately without processing delays (Saidi, 2010). Nine out of the ten banks operating in the country provide Internet banking services. Although customers of these banks utilize other forms of electronic banking, such as mobile banking and auto teller machines (ATM), Internet banking utilization has been very minimal.

2.2 Banking and technology

Banks are Information and Communication Technology (ICT) dominant organizations. They rely heavily on ICT to process and deliver services. Not only is ICT critical in the processing of information but it also provides a way of differentiating products and services (Baraghani, 2007). New technology has created more products, services, market opportunities and management processes for the banks (Kazmi, 2011).

Developments in ICT have enabled banks to provide e-banking services such as ATM, telephone, mobile and Internet banking. Previously, banks used to maintain ledgers and folio numbers for each account where all the transactions were recorded. Customer information were stored in individual booklets where the customer's name, specimen signatures and account balances were stored. The banks also calculated quarterly interest on savings account manually and post it on the ledger. Customer deposits and withdraws were recorded manually in the booklet and to do this it required customers to physically visit the branch.

When computers were introduced in commercial banks in late 1980s, they were used to store customer information and balances. Where a bank had more than one branch the computers were not connected to share information. In mid 1990s, Standard Bank, then Commercial Bank, was the first bank to link its branches and stopped issuing booklets to account holders. The bank then installed its first ATM around the same time.

In 1990s, the use of ATM services to obtain cash were on a very small scale as this was used by one bank only. Currently all banks have their own ATM switches, in addition a national switch was introduced in 2015 by Bankers Association of Malawi (BAM) as a central switch to provide inter-operability so that card holders of one bank should be able to withdraw cash from another bank's ATM. Since the advent of ATMs in Malawi, banks have moved toward using other self-service channels, such as mobile and Internet banking (Mahmood & Clarke, 2009).

The Internet usage has become part of everyday life for most Malawians. Banks have been providing electronic banking services for many years, but the increase in the use of the Internet has also made commercial banks to look to this as another channel of delivering banking services in an attempt to respond to global developments. Mahmood & Clarke (2009) argue that the spread of e-banking is as a result of increase in broad band Internet usage population. While this observation is true, it is worth noting that banks have also implemented Internet banking solutions because they have discovered the benefits of this delivery channel.

2.2.1 Internet banking defined

Internet banking also known as online banking is defined by Lloyd (2007) as an online service that allows consumers to perform banking transactions using computers with an Internet connection. According to Lloyd (2007) transactions include but are not limited to checking account balance, funds transfer and bill payment. Thus, Internet banking is a remote service delivery channel for banking services and Internet bank offers its banking services via the Internet.

Thulani, Tofara, & Langton, (2009) refers to Internet banking as a system that enables bank customers to access their accounts and general information on bank products and services through the use of bank's website, without the intervention or inconvenience of sending letters, faxes, original signatures and telephone confirmations. It is the type of service through which bank customers can request information and carry out most retail banking services such as account balance information, inter-account transfers, bill payment and many more via the Internet without leaving their home or office.

Yibin (2003) and Thulani, *et al.*, (2009) identified three functional level/ categories of Internet banking. These are: Basic information e-banking, Simple transactional or Communicative e-banking and Advanced transactional e-banking.

Informational e-banking - first level of Internet banking. Typically the bank has the marketing information about the bank's products and services on a webserver. *Communicative/ Simple transactional e-banking* - this type of Internet banking allows some interaction between the bank's systems and the consumer. The interaction is limited to e-mail, account inquiry, loan application or static information updates (personal details). Simple transactional e-banking does not permit any funds transfers (Thulani, *et al.*, 2009). *Advanced transactional e-banking* - this level of Internet banking allows bank customers to electronically transfer funds from one account to another accounts, it allows bill payments and conduct other banking transaction online.

There are various definitions of Internet banking, but for the purpose of this research, Hosein (2009) definition will be applied, which defines "Internet banking as a portal, through which customers access different banking services ranging from bill payment to making investment." Thus advanced transactional e-banking according to Thulani, *et al.*, (2009). Therefore, websites for banks that only provide information to clients, without the option of making transactions do not qualify as Internet banking.

2.2.2 Internet banking in Malawi

The rapid growth of Internet usage in Malawi has presented an opportunity for banks to use it as a service delivery channel. This channel is considered as the best strategic

tool that transform the way banks do business, deliver services and compete against each other (Seitz & Stickel, 1998). Internet has indeed made many banks around the world to re-think their IT use, as well as business strategies in order to stay competitive.

Several banks in Malawi have implemented Internet banking solutions, but as a country, Malawi is still in its early stages of shifting towards Internet banking. Cash still dominates as a major payment system. According to a research conducted by Bankable Frontier Association (BFA) in March 2015, there was no indications of any notable shift towards Internet banking in Malawi. Out of 221.3 million payments made every month only 0.3% of these were electronic (BFA, 2015).

Although in recent years Internet banking adoption has increased in Malawi, the number remains small as there were only 31,977 subscribers in April 2015 from 26,450 same period previous year, representing a 21% increase (RBM, 2015). Volume wise, Internet banking recorded transaction volumes of 23,713 in April 2014 to 44,137 in April 2015. The corresponding value of transactions was K9.0 billion in April 2014 to K17.3 billion in 2015 and average transaction value for Internet banking slightly moved from around K380,000 in April 2014 to K392,000 in April 2015 (RBM, 2015).

According to Reserve Bank of Malawi, Internet banking showed higher average transaction value compared to other means of providing goods and services through electronic means - e-delivery channels (RBM, 2015). The higher average transaction value for Internet banking compared to other bank-led electronic banking suggests

that Internet banking is mainly used by corporate customers as opposed to individuals who mostly use other forms of e-banking services such as ATMs. This is not surprising because the country is very poor with majority of citizens living in rural area with less or no formal financial services. In 2014 only 27% of adult Malawians had a bank account with formal financial institution (FinScope, 2014).

Despite low uptake of electronic banking by consumers, Malawi government is making some progress to develop electronic payments like development of national payment systems bill which has been pending since 2002 and the introduction of Integrated Financial Management Information System (IFMIS). Although the government has been promoting electronic payment, it has not been exemplary. The government of Malawi continues to rely on using cheques to make payments. The weakness of the cheques based payment system was evidenced in 2013 government financial scandals commonly known as the “Cash-gate scandal”, in which fraudulent government cheques were being issued without services being provided.

2.3 Advantages of Internet banking

Banks and other financial institutions have implemented Internet banking because of its numerous benefits to both the banks and its customers. Some of the benefits of Internet banking are examined below.

2.3.1 Advantages to the bank

Internet banking has many benefits to the bank. These include; attracting high value customers, enhance bank image, reduce transaction costs and improves competitive advantage. Each of these advantages is discussed in the sections that follow.

2.3.1.1 Attracts high value customers

Internet banking often attracts customers with higher than average income and education. Several studies indicate that online bankers are the most profitable clients for banks (Mols, 1999; Robinson, 2000; Sheshunoff, 2000). Offering banking service via the Internet provides wider choices and contingency for customers, which is attractive to high value customers. Mahmood & Clarke (2009) argue that providing unique experience is compelling element that retains customers. Customers are key to the success of any organization and banks must find out what their customers want to be provided with.

2.3.1.2 Enhance bank's image

Internet banking helps to enhance the image of the bank since customers view it as client focused and innovative (Mahmood & Clarke, 2009). This was very true when only most innovative banks were implementing the Internet delivery channel. Today, the major differentiating factor is an attractive website with large portfolio of innovative products, which can enhance bank's image.

2.3.1.3 Easier bank expansion

Traditionally when a bank wanted to expand its network geographically, it had to open new branches. However, Internet banking has made this unnecessary. Al-Fahim, (2012) noted that Internet banking service offers a competitive advantage by providing an unlimited distribution network where customers have access to their accounts from anywhere in the world. Banks now have customers in areas where they do not have physical presence since with Internet banking, financial transactions do not require physical presence near the customer.

2.3.1.4 *Reduced transaction costs*

The main economic benefit of Internet banking is reduction in operational costs by offering banking services online. Giglio (2002) indicated that once established, Internet banking is the most cheapest delivery channel of providing banking services. With Internet banking, most routine services such as balance enquiry, bill payments and funds transfer can be carried out without interacting with the bank official. Internet banking can also reduce the number of branches for a bank, thereby reducing the number of workers which in turn cut costs.

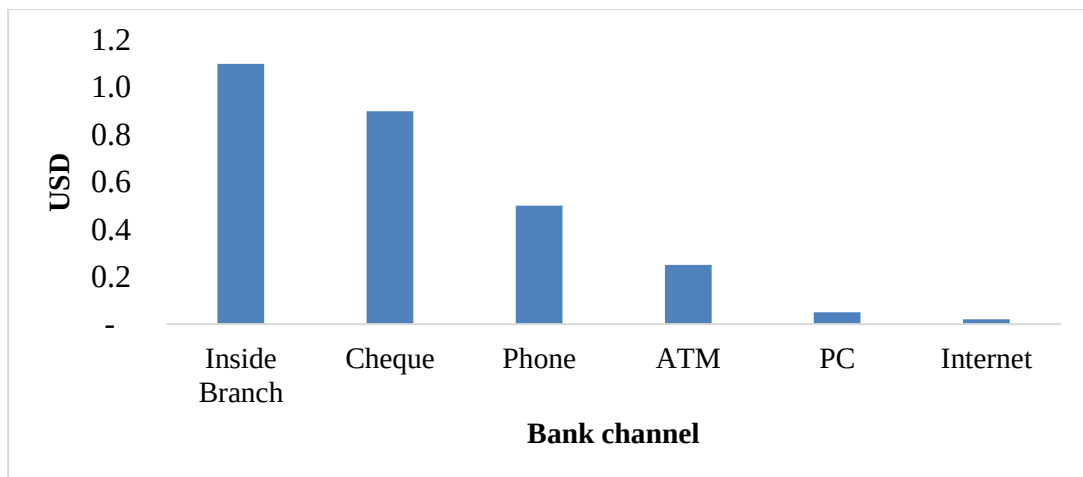


Figure 2.1: Cost of banking transaction, source: (Furst, Lang, & Nolle, 1998)

According to Furst, Lang, & Nolle (1998) Internet banking lowers transaction cost, which enhances customer satisfaction. The cost of an electronic transaction is very small as compared to transactions inside the bank on the counter. Figure 2.1 shows the average cost of a transaction via each delivery channel. The figure shows that Internet banking is cheaper as compared to all other banking channels.

2.3.1.5 Improves competitive advantage

Internet banking creates a barrier for the need for customers to close their bank accounts. Sheshunoff (2000) argues that once a customer moves to full Internet banking services, the chance of a customer leaving the bank reduces. This observation is explained by the customer behavior theory that switching always requires much time and effort.

2.3.2 Advantages to the customer

Internet banking provides many advantages to customers as well. Some of the advantages include: time and cost savings, convenient, secure, freedom from place, good financial management and transaction speed.

2.3.2.1 Time saving

Internet banking saves time as transactions can be made anytime, 24 hours a day, 7 days a week (24/7). Customers avoid wasting time in banking halls standing on long queues. The saved time can be used to do other important things (Howcroft, Hamilton, & Hewer, 2002).

2.3.2.2 Cost savings

Internet banking reduces cost in accessing and using the banking services because most banks charge over the counter transactions which are free online. In addition, transport costs to the bank are avoided if bank services are accessed on line. Internet banking also reduces paper work (Howcroft, *et al.*, 2002) as there is no need to fill or complete any paper, thus reducing stationary costs.

2.3.2.3 *Convenience*

Online service delivery channel provides freedom from place as transactions can be completed from anywhere without requiring the physical presence at the bank. Customers can access all banking transactions whenever they want, including in the comfort of their homes or offices. Internet banking services are available 24 hours a day, 365 days a year. Real-time account balances and information are available at the touch of a few buttons thus, making banking faster, easier and more efficient (Ioannis, 2011).

2.3.2.4 *Security*

Stafford (2004) suggested that increased use of Internet banking can reduce the occurrence of identity theft by taking personal information out of the transaction and eliminating paper trail. Using Internet banking does not require filling of forms or signatures, this takes out personal information out of the transaction process. Internet banking therefore protect individuals as personal identifiable information cannot be linked to a user. Geetha and Malarvizhi (2011) found that good security and privacy level increased the acceptance of e-banking services among customers in India. Their findings also showed that customers were willing to adopt e-banking when they got provided with guidance and safety of their accounts.

2.3.2.5 *Good financial management and transaction speed*

Bank customers have easier access to information as they can check multiple accounts at the click of a button. Internet banking enables better cash management as it speeds up cash cycle, thereby increasing efficiency in business processes. Internet banking simplifies the management of funds as customers can download transaction history of different accounts and do a “what-if” analysis on their own before effecting any

transaction on the web site. This analysis help managers to make informed decisions. The response time of Internet banking is also very fast.

2.4 Internet banking adoption

In his book *Diffusion of Innovation*, Rogers (2003) describes innovation as “the implementation of ideas, practices, processes, or services that are perceived to be new or significantly improved within a particular environment by individuals and are intended to be beneficial”. Adoption is defined as a decision to make full use of an innovation as the best course of action available. Rejection of innovation however, is a decision not to adopt an innovation (Rogers, 2003).

Innovation is the key driver in any development. However, people do not adopt innovation at the same rate. Some people adopt more quickly than others while others never adopt certain innovations at all. There is a lot of literatures on factors affecting adoption of technology but most of these studies have conflicting results.

Banks just like any other organization have invested into Internet banking to cut costs or improve service quality. Success of innovation and technology depends on user acceptance. If users do not accept the technology and use it, full benefits cannot be realized by the organization (Venkatesh & Davis 1996). This work investigates the factors that affect adoption and use of Internet banking in Malawi.

Studies indicate that acceptance and usage of Internet banking and any other form of e-banking greatly depends on demographic factors like level of education (Kolodinsky, Hogarth, & Shue, 2002). This observation has been collaborated by

other researchers, but individual attitudes and beliefs may also have stronger influences than demographic factors.

Risk concerns may also have greater impact on customer use of online banking. A study conducted by Anti-Phishing Working Group (APWG) in 2015, found that more than 42.7% of global phishing attacks in the second half of 2014 targeted banks and money transfer institutions (Aaron & Rasmussen, 2015). Chung & Paynter, (2002) identified customer fear of transaction security as an inhibitor from using online banking. In fact, security has been identified as a major concern for many (Black, 2002). Suh & Hans (2002) found trust to be an important factor in online banking usage. This observations points to the fact that trust toward Internet banking relates to customer's judgment and attitude towards security and privacy.

A number of researchers have studied customer adoption of Internet banking (Brown, 2003; Ismail and Osman, 2012; Tingira & Abdelrahma, 2012; Fonchamnyo, 2013; Lee & Lee, 2001). Results of some of these studies are briefly discussed below and knowledge gaps justifying this study are presented.

By employing innovation diffusion theory (IDT) and the decomposed theory of planned behavior (DTPB), Brown (2003) surveyed 162 respondents and discovered several factors that affects adoption of Internet banking. Perceived advantages, the opportunity to try Internet banking, the number of banking services required by respondents and perceived risk are some of the factors that significantly influenced adoption and use of Internet banking. In this work, related factors are examined if they influence adoption and use of online banking in Malawi.

In Sudan, Ismail and Osman, (2012) conducted a study on factors influencing adoption of e-banking, they found that high-income clients use e-banking more frequently than low-income clients. Interestingly, they observed that there was no significant relationship between e-banking usage with gender, education, and occupation. However, Ismail and Osman, (2012) noted a relationship between e-banking and computer literacy levels.

According to Ismail & Osman, (2012) other factors that affect the adoption of e-banking in developing nations include; frequent system downtime, inaccessible Internet, lack of means for reporting technical problems, unclear legislations protecting e-transactions, slow response for correcting erroneous transactions, weak banks' role in raising clients awareness, unclear e-banking guidelines and instructions and frequent power cut offs. Another research from the same country also observed that demographic factors including income do not affect the Sudanese bank's client's intention to use banking technology (Tingira & Abdelrahma, 2012).

A study conducted in Cameroon revealed that customers' attitude had a positive effect on e-banking adoption. The study observed that a positive attitude and confidence in e-banking systems contributed to consumer desire to use and even encourage others to use e-banking (Fonchamnyo, 2013).

In Kenya, research by Njuguna, Ritho, Olweny & Wanderi, (2012) showed that despite the high rate of Internet access record, Internet banking use was very low. Only 24.82% of the respondents used Internet banking services. The Internet banking use was popular to male and the younger generations (Njuguna, *et al.*, 2012). Perkins

& Annan, (2013) observed that Perceived Usefulness, Perceived Ease of Use, Trust and Security were significant influence on Ghanaian customers' intention to use Internet banking. This strongly agree with what Bultum (2014) observed in Ethiopia. Using a research framework developed based on Technology - Organization Environment Model (TOEM), Bultum (2014) found that the major barriers to Internet banking adoption among Ethiopians were; security risk, lack of trust, lack of legal and regulatory framework, lack of ICT infrastructure and absence of competition between local and foreign banks.

In Zimbabwe, impact of demographic factors on Internet banking adoption was observed. Muzividzi, Mbizi, & Mukwazhe, (2013) concluded that there was a negative relationship between age and Internet banking adoption. However, education was identified as a prerequisite in enhancing the smooth adoption of Internet banking technology (Muzividzi, *et al.*, 2013)

Muzividzi, *et al.*, (2013) also showed that Internet banking was popular among men than women. This may be because men are risk takers, they have courage to take up new technology even with little information about it. Men usually are keen to experiment than women.

Sathye (1999) studied the adoption of Internet banking by Australian consumers using factors such as security, ease of use, awareness, pricing, resistance to change and infrastructure. Results showed that security concerns and lack of awareness of Internet banking and its benefits were considered as the obstacles to the adoption of Internet

banking in Australia. Similar factors are investigated in this work to uncover their effects on Internet banking adoption and use in Malawi.

Lee (2009) conducted eight interviews and concluded that relative advantages and compatibility were positive factors affecting the adoption of Internet banking. Perceived risk was one of the negative factors affecting the adoption of Internet banking, and consumer previous experience and self-efficacy generalized their beliefs (a negative or positive attitude) toward the adoption of Internet banking.

Erikson, Keren, & Nilsson, (2005), using Technology Acceptance Model (TAM), identified trust, perceived ease of use and usefulness to be important factors. They further noted that online banking use increase as long as customers perceive it as useful. The perceived usefulness is key because it determines whether the perceived usefulness will lead a customer to increase use of the online banking. They concluded that perceived usefulness is a key construct to promoting customer adoption and use of any technology.

Ndubisi (2006), using decomposed theory of planned behavior (DTPB) identified the importance of banking needs, complexity, triability and risk as factors affecting adoption and use of Internet banking. The conclusion was that consumer altitudes play a key role in the adoption of online banking.

Lee & Lee (2001), investigated consumers' decision to adopt Internet banking to determine if it was need-based or it depended on one's skill by using Structural Equation Modeling (SEM). Results showed that adoption of Internet banking was

both a need and skill based decision. The impact of demographic factors on non-adopters' likelihood of adopting Internet banking was found to be negligible.

Chellappa (2002), showed that consumers exhibited variability in their perceptions of privacy, security and trust between online and offline transactions. The study found that consumers' perceived privacy and perceived security as distinct constructs but the effect of perceived privacy on trust in Internet banking was strongly mediated by perceived security.

Ramayah, Muhamad, Mohd & Noor, (2002) used a structured questionnaire to collect data through a convenient sampling from 180 banking customers in the state of Penang in Malaysia. The study revealed that banks had achieved considerable success as far as awareness was concerned; as a vast majority of the respondents reported that they were aware of Internet banking. Although awareness was high, this had not translated into actual use, as only 24.4% had Internet banking experience.

Using discriminant analysis it was found that Internet banking users had more prior Internet experience, had positive views on ease of use, were more aware of the Internet banking services and benefits and also had less security concerns as compared to non-users of Internet banking. It is one of the objectives of this research work to examine if related factors, as identified by other research apply on adoption and use of Internet banking in Malawi.

Research on Internet Banking has been conducted in developing countries like in Zimbabwe (Muzividzi, *et al.*, 2013), in Ethiopia (Bultum, 2014), in Sudan (Ismail &

Osman, 2012), in Cameroon (Fonchamnyo, 2013) and in Kenya (Njuguna, *et al.*, 2012). It is evident though, that most research on Internet banking adoption had focused on factors that influence consumers' intention to adopt Internet banking (Nasri & Charfeddine, 2012; Njuguna, *et al.*, 2012) and attitude towards adoption (Bryson & Atwal, 2013; Fonchamnyo, 2013).

Nonetheless, an assessment of these studies revealed that although different factors were identified as having a significant influence on the adoption of Internet banking, several factors such as social influence, facilitating conditions like age, gender, income and occupation have not been exploited in recent years. In addition, most of these studies were specific to geographical area, making it difficult to draw general conclusion. Even with the same type of technology some results conflicted from one individual to another or from one area to another. This has therefore led to the existence of several knowledge gaps in the current research.

2.5 Technology trust

Currall & Judge (1995) defined trust as an individuals' reliance on another party under condition of dependance and risk. Mayer, Davis, & Schoorman, (1995) on the other hand defines trust as willingness of a party to be vulnerable to the action of another based on the expectation that the other will perform a particular action which is important to the trustor, irrespective of the ability to monitor or control that other party. The two definitions indicate that trust hinges on taking risks and making oneself vulnerable, implying that something of value could be lost as a result of engaging in a trusting relationship (Mayer, *et al.*, 1995). Performing financial transaction over the Internet is a form of trusting behaviour as something of value

could be potentially lost. In an online banking system the customer trusts the Internet that it will meet their expectations. The customer needs to trust both the individual or company that sell goods or services electronically (e-vendor) and the technology itself (Masrek, Mohamed, Daudc, & Omard, 2014).

According to Delafrooz, Rostami, & Karami, (2013) as qouted by Yousefia & Nasiripour (2015), the characteristics of the trustee and system assurance have positive relationship with the level of customer's trust in e-business environment and consequently, Internet-banking. In the case of Internet banking, where the customer already has an account and interacts with the bank (e-vendor) through other channels, vendor trust has no effect but technology trust does.

Technology trust is the subjective probability by which an individual believes that technology infrastructure and its underlying control mechanisms are capable of facilitating inter organisational transactions (McKnight, Carter, Thatcher, & Clay, 2011). Internet banking website is technology and needs to be trusted by customers for them to use it. Technology trust is based on technical safeguards, protective measures and control mechanisms that aim at providing reliable transactions timely, accurately and completely (Cassell & Bickmore, 2000).

Technology trust in online banking relates to technical adquecy and extrinsic characteristics that describe web quality. When a customer pays attention to the positive information and well designed website of the bank and perceive it as relevant and valid they are likely to trust the website (technology) and the vendor (McCord &

Ratnasingam, 2004). This evidently suggests that technology trust is key in Internet banking adoption and use.

Trust is key to positive interpersonal relationships (Fox, 1974; Lewis & Weigert, 1985) as quoted by (Harrison & Chervany, 1996) because it is central to how we deal or interact with others. Gabarro (1987) indicated that trust is central component in effective working relationships. In business, trust is important because of uncertainties involved (Gefen, 2000). The uncertainty is as a result of suppliers being inevitably independent and not fully predictable to understand their behavior. During an online banking transaction, a customer could not be guaranteed that the transaction will go through (Muhammad & Khalil, 2011). Unless this uncertainty is reduced, customers could not do business with suppliers. Trust is therefore important in reducing the uncertainty (Gefen, 2000).

In e-commerce (buying and selling of products and services through an electronic medium like the Internet, without using any paper document) the website does not allow customers to judge whether the vendor is trustworthy as is the case in a typical face-to-face interaction (Reichheld & Schefter, 2000). In an online transaction like Internet banking, customers can not observe the teller, cannot see the third party beneficially if it is a funds transfer, and so cannot rely on physical proximity or body language. Internet banking is therefore risky in the eyes of the customer (Clarke, 1997).

Researchers have tried to understand the impact of trust in technology adoption and usage (Gefen, Karahanna & Straub, 2003; Masrek, *et al.*, 2014; Namahoot &

Laohavichien, 2015). Gefen, Karahanna, & Straub(2003) nicely presented the model of trust and TAM in an online shopping. In their work, they showed that trust increases some aspects of Perceived Usefulness (PU) and construct Perceived Ease of Use (PEOU) which increases trust. They argued that when a customer perceives technology as easy to use, it then means the vendor is investing in the relationship which is a sign of commitment (Blau, 1964; Ganesan, 1994). Thus, although PEOU is not the only determinant of trust, it is a key contributor. When consumers trust technology such as Internet banking, they are more likely to adopt it.

2.6 Theoretical framework

There are a number of theories and models that are used in studying adoption of technology such as Internet banking. Most of these theories focus on people's intuition to engage in certain behaviors. Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB) and Theory of Reasoned Action (TRA) have been widely used in Internet banking adoption research and use. The basic assumption of these theories is that people consciously decide whether to engage or not engage in certain behaviors (Kim & Crowston, 2011). Another widely used model is diffusion of innovation by Rogers (2003) who argues that adoption is a process. These theories are examined in detail below and they will form part of theoretical framework of this study.

2.6.1 Theory of Reasoned Action (TRA)

Research in understanding user acceptance of technology has resulted in several theoretical models. One of the theories is the Theory of Reasoned Action (TRA) which is concerned with the determinants of consciously intended behavior (Ajzen &

Fishebein, 1980). The theory is composed of altitudinal social influence and intentional variables to predict people's behavior.

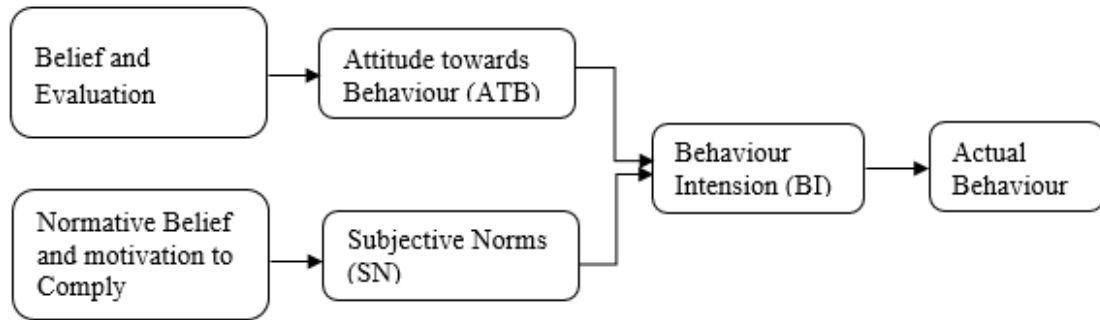


Figure 2.2: Theory of Reasoned Action (Ajzen & Fishebein, 1980)

Figure 2.2 provides a diagrammatic representation of the relationships among the constructs in the TRA. In the TRA, it is believed that individual's behavioral intention (BI) to perform a behavior is determined by the individual's attitude towards the behavior (ATB) and subjective norm (SN) which is the overall perception of other people towards what they think the individual should or should not do.

The importance of the two constructs, Subjective Norm and Attitude towards behavior to predict behavior vary according to the behavioral domain. Where personal based influence is stronger, attitude towards behavior will be the dominating predictor of behavior. While the behavior in which normative implications are stronger, then subjective norm will be a dominant predictor of behavior (Ajzen & Fishebein, 1980).

Although TRA has been extensively used and researched on, it is a very general model. It does not specify the beliefs that are operating for a particular behavior. Users of the model must first identify the beliefs that are relevant or significant for the subject being studied. Sheppard, Hartwick, & Warshaw, (1988) highlights yet other problems with TRA theory, users must differentiate behavior from intention and the

model does not provide for probability of failing to perform either due to one's behavior or intention. (Sheppard, *et al.*, 1988).

2.6.2 Technology Acceptance Model (TAM)

Technology acceptance model (TAM) is another widely studied theory adapted from TRA. This theory captures factors which provide sound prediction of usage by linking behavior to attitude. For example ease of use to usefulness (Davis, 1989). TAM is an important theory that models how users accept and use new technology. It provide two key factors which affect the acceptance of technology, which are perceived usefulness and perceived ease of use. Perceived usefulness is the degree to which a person believes that using the technology would improve their performance. Perceived ease of use is the degree to which a person believes that using a technology would be free from effort.

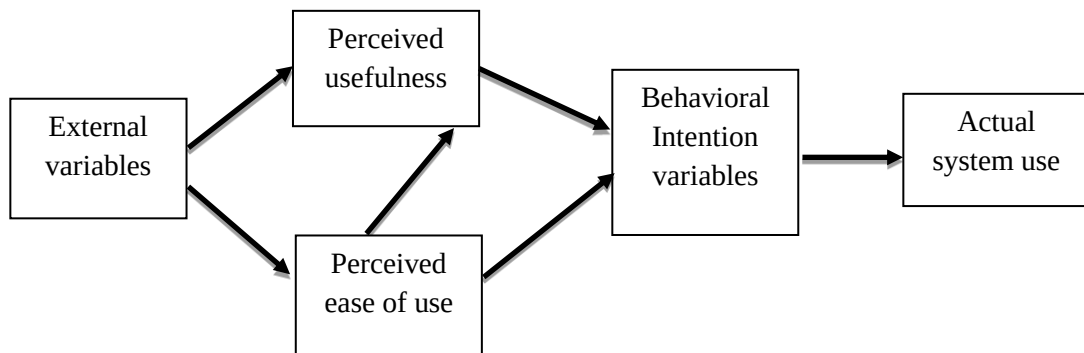


Figure 2.3: Technology Acceptance Model (Davis, 1989)

TAM has strong behavioral elements and assumes that when someone forms an intention to act, they will be free and be without limitation. Adoption of e-services like Internet banking involves the acceptance of the Internet banking and the e-service provider. Since TAM assumes technology adoption is mainly influenced by two constructs, perceived usefulness and perceived ease of use (Davis, 1989) it is

incomplete. Trust also plays a role. To address limitations of TAM, Trust and TAM model (Gefen, Karahanna, & Straub, 2003) was developed to show the importance of trust in an environment that lacks human interaction.

2.6.3 Theory of Planned Behavior (TPB)

To address some of the criticism that have been levelled against the Theory of Reasoned Action, Ajzen (1985) extended the theory of reasoned action to include other constructs called behavioral controls which predict behavioral intentions and actual behavior. The extended model is called Theory of Planned Behavior (TPB). The model is shown in Figure 2.4 below.

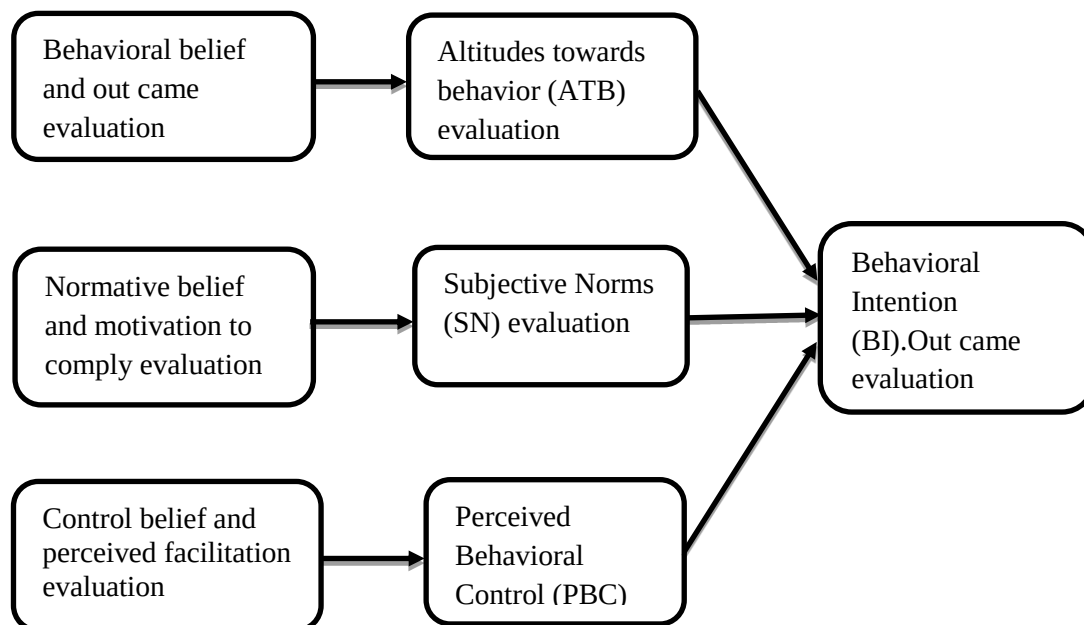


Figure 2.4: Theory of Planned Behavior (Ajzen, 1985).

The theory of planned behavior has been successfully applied in predicting the performance of behavior and user intention to use new software (Mathieson, 1991), in understanding waste paper recycling (Cheung, Chan, & Wong, 1999), in acceptance of new technology such as electronic commerce and other e-services (Nasco, Toledo,

& Mykythyn, 2008), e-trading (Lee, 2009) and in Internet banking domain (Jaruwachirathanakul & Fink, 2005).

2.6.4 Diffusion of innovation

Diffusion is a process in which an innovation is communicated through certain channels over time among the members of a social system (Rogers, 2003). The attributes of an innovation, communication channel, time and social system are the key components of diffusion of innovation (Rogers, 2003) like Internet banking. Figure 2.5 shows diffusion of innovation model as proposed by Rogers (2003). In his theory, Rogers (2003) argues that for an innovation to be accepted and adopted, people need to be informed about it. This information comes from change agents (friends or adverts). When the initial awareness has been created, potential users seek knowledge about the innovation in order to reduce uncertainty and create positive attitude toward the innovation. Uncertainty is a major obstacle to adoption of innovation. Thus to reduce this, individuals should be informed about advantages and disadvantages so that they are aware of all of its consequences (Rogers, 2003).

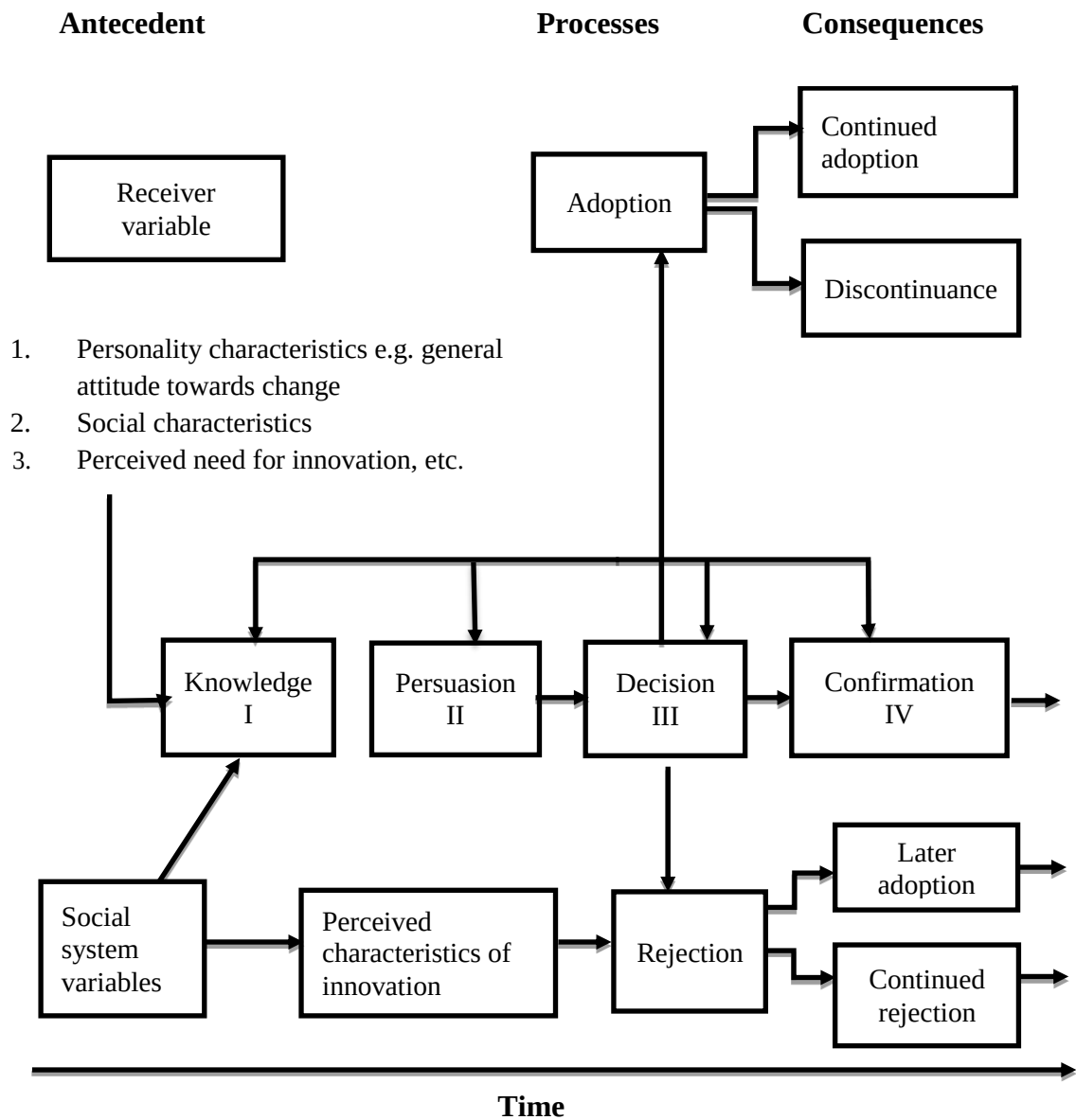


Figure 2.5: Diffusion of innovation model (Rogers, 2003)

- | | |
|------------------------------|-----------------------|
| 1. Social system norms | 1. Relative advantage |
| 2. Tolerance of deviancy | 2. Compatibility |
| 3. Communication integration | 3. Triability |
| 4. Etc. | 4. Observability |

Components of diffusion process

Rogers (2003) identified the following as key components of diffusion process. The attributes of an innovation, communication channel, time and social system. Each of these components is briefly examined below.

i. Attributes of an innovation

Attributes of an innovation affect its adoption rate. Rogers (2003) identified relative advantage, compatibility, complexity, triability and observebility as key attributes of an innovation that facilitates its adoption.

ii. Communication channel

The second element of diffusion process is communication channel. This is the processes in which change agents create and share information with potential adopters. Rogers(2003) states that the communication channel can either be cosmopolite channels or localite channel. Cosmopolite channels are relatively more important at the knowledge stage, while localite channels are relatively more important at the persuasion stage in the innovation-decision process.

iii. Time

Time is very important in diffusion process. The time dimension is involved in diffusion of innovation in three different ways. First, time is involved in the innovation decision process. This is the mental process through which an individual passes from first knowledge of an innovation to forming an attitude toward the innovation (Rogers, 2003).The second way in which time is involved in diffusion process is the innovativeness of an individual. This is the degree to which an

individual is relatively quick or earlier in adopting new ideas than other members of a social system (Rogers2003). The third way in which time is involved in diffusion process is in the rate of adoption. This is the relative speed in which an innovation is adopted by members of a social system. Time is involved throughout the diffusion process.

iv. *Social systems*

A social system is defined as a set of interrelated units that are engaged in joint problem solving to accomplish a common goal (Rogers, 2003). Since diffusion takes place in society, it is influenced by social structures.

2.6.5 Comparison of theories

Four theories have been examined. These theories focus on different determinants to explain people's behavior in adopting new technology. While the theories are different, they share some similarities. The theories assume an attitude intentional behavior relationship, which is either cognitive or normative. Attitude and intention in turn has an influence on one's behavior. The construct perceived usefulness (PU) in TAM is similar to relative advantage antecedent in IDT. Construct perceived ease of use (PEOU) in TAM is similar to complexity in IDT. These relationships made the theories ideal for the study.

2.6.6 Use of theories

Theories and models play a key role in technology adoption research as they provide frameworks to guide, design and interpret research results. According to Eisenhardt

(1989) theories and model guide research design and data collection, theories and models are also part of interactive process of data collection and analysis. They can also be part of a final product of a research.

The concepts in the theories above were examined in relation to acceptance and adoption of Internet banking in Malawi. These theories were used as the baseline for this study because they are the most concrete in determining other factors that influence adoption or rejection of technology. Although some scholars argue that these theories are dated, the theories have been well tested and successfully applied in many studies to predict behavior in technology acceptance research by many (Cheung, Chan, & Wong, 1999; Nasco, Toledo, & Mykythyn, 2008; Lee *et.al*, 2009; Jaruwachirathanakul & Fink, 2005). In this study, these were the best theories that could allow the researcher to easily modify to suit the research objectives.

2.7 Proposed Model

Technology Acceptance Model (Davis, 1989), Theory of Planned Behavior (Ajzen & Fishebein, 1980) and Innovation Diffusion Theory (Rogers, 2003) were used to determine the factors that affect adoption and use of Internet banking in Malawi. Because trust has been identified as key element in adoption of technology in e-service, it is included in the theoretical framework as shown in Figure 2.6. The combination of the theories provided multidimensional approach to comprehensively understand factors that affect the adoption of Internet banking in Malawi.

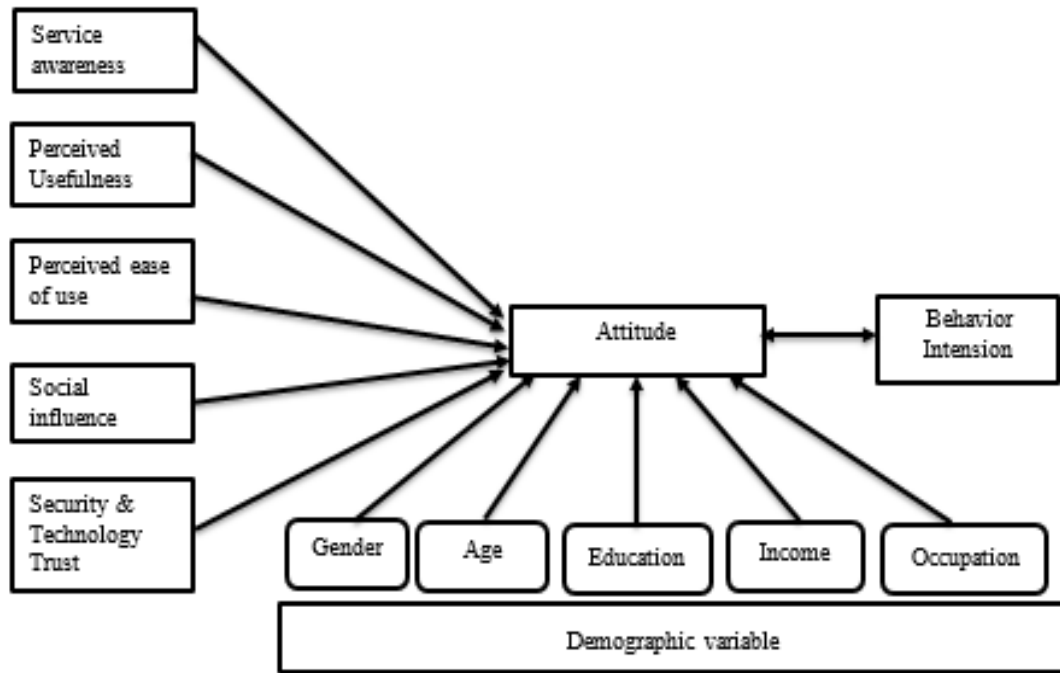


Figure 2.6: Proposed model, adopted from (Davis, 1989; Rogers, 2003)

Demographic aspects (gender, age, education, income and occupation), social influence (service awareness and peer influences) and technology aspects (perceived ease of use, perceived usefulness, security & technology trust) have significant impact on adoption and use of any technology. The proposed theoretical model for Internet banking adoption in Malawi context is shown in Figure 2.6 above. The model shows the relationship between the dependent and independent constructs. The following section provides description of each construct, along with the justification for its inclusion in the model.

i. Attitude

Attitude is defined as an individual's positive or negative feeling about performing the target behavior or in this case, using Internet banking (Venkatesh, 2013; Ajzen & Fishebein, 1980). According to Lussier (2000) attitude is an overall perception about an object. Attitudes are influenced by past behavior, hence, the relationship between

attitude and behavior is usually represented as a two-way process in which attitude and behavior affect each other. In this study attitude describes a person's perception towards Internet banking. If a person has a positive attitude toward Internet banking, he or she is more likely to adopt and use it.

ii. Service awareness

Internet banking Service awareness (IBA) is the level of customer knowledge or understanding about Internet banking services, its benefits and how to use it. The level of awareness is influenced by the amount of information received by the customer (Al-somali, Gholami, & Clegg, 2009). The higher the level of awareness owned by the customer, the more the customer will increasingly understand usefulness of Internet banking service.

Findings by Alam, Magboul, & Kurali, (2010) indicated that lack of service awareness, was among the challenges facing Sudanese in adoption of online banking. Thus Internet banking service awareness has positive effect on perceived usefulness (PU). In turn, this has an effect on customer attitude towards Internet banking to adopt or not to adopt.

iii. Perceived usefulness

Perceived usefulness (PU) is the degree to which a person believes that using the technology would improve his or her performance or outcome expectancy (Davis, 1989). In this study, perceived usefulness (PU) is measured by the perception of using Internet banking in terms of its benefits (time saving, cost saving and efficiency). PU was found to be a strong predictor of intention to use information technology

(Venkatesh, Morris, Davis, & Davis, 2003). To explain PU towards intention to use Internet banking, the researcher assumed that PU will have a positive effect on behavior intention to use Internet banking. Thus customers who find Internet banking useful will be ready to adopt it.

iv. *Perceived ease of use*

Perceived ease of use (PEOU) is the degree to which a person believes that using a technology would be easy and free from effort (Venkatesh, *et al.*, 2003). While many researchers have found that PEOU has significant effect on behavior intention, Chau & Hu (2002) argue that PEOU does not have significant influence in the intention to use behavior. In this study, the researcher assumed that PEOU will have a positive influence on behavior intention to adopt Internet banking because most people do not want to exert more effort or labor themselves with complex things when they believe they can achieve same result with simpler methods. Consumers will therefore adopt Internet banking when they believe that it will be easier for them to do so.

v. *Social influence*

Social influence (SOL) is defined as the degree to which peers influence the use of technology, whether positive or negative. Venkatesh, *et al.*, (2003) observed that social influence is very important and influential. Rogers, (2003) in his innovation diffusion theory also suggests that social influence is an important determinant of behavior. In this context, if ones social network use or recommend Internet banking, a person may find it useful and will be compelled to use it (Ankit & Shailendra, 2011). In this research it is assumed that Internet banking adopters are influenced by positive

message by social network and are likely to adopt Internet banking if their social network uses it.

vi. *Security and Technology trust*

Security and Technology trust is important in conducting business over the Internet. Perceived security and privacy is defined as users' perception of protection against security threats and control of their personal information in an online environment (Muniruddeen, 2007). Internet banking website need to be secure and trusted by customers for them to use it (Jøsang, Ismail, & Boyd, 2007). Two concepts arise when examining Technology trust - security and best business practise.

Security issues relate to confidentiality, integrity, authenticity, availability, access control and non-repudiation mechanisms. Best business practises such as good customer care, support policies, warranty, and user friendliness of the website increases customer technology trust. Security & technology trust was measured through the level of customer confidence in the security systems provided by the Internet banking technology and belief that their online transaction will be completed successfully without any problem.

vii. *Behavioral Intention*

Behavioral Intention (BI) is defined as a person's perceived likelihood or subjective probability that he or she will engage in a given behavior (Committee on Communication for Behavior Change in the 21st Century, 2002). It is ones desire to adopt and make use of a certain tool in the future (Ajzen & Fishebein, 1980;

Venkatesh & Brown, 2001). Behavior intention is believed to have direct influence on adoption of technology (Ajzen & Fishebein, 1980).

Ajzen (1991) argues that behavior intention reflects how hard a person is willing to try, and how motivated he or she is, to perform the behavior. In explaining the behavior intention toward Internet banking adoption and use, the researcher assumed that behavior intention will have positive influence on Internet banking adoption. This variable was measured through the intention to continue using Internet banking in the future and hope to use Internet banking in completing financial transactions.

viii. Gender

Gender refers to attitudes, feelings and behaviors that are given cultural association with a person's biological sex. These are social, cultural and psychological traits that are linked to male and female through particular social context (APA, 2011). It is commonly argued that biological differences between male and female determine gender by causing enduring differences and dispositions. Gender is based on social factors such as values, perceptions, beliefs and attitudes (APA, 2011).

Researchers (Venkatesh, Morris, & Ackerman, 2000; Gefen & Straub, 1997) have investigated the role of gender in the adoption of technology. According to Venkatesh, Morris, & Ackerman, (2000) males use computers more than females, indicating gender as an important variable in adoption of technology. Dwivedi & Lal (2007) as quoted by Al-Shafi (2009) proposed that gender being a social variable, can be considered as an independent variable to explain differences between adoptors and non adoptors of technology. In explaining the effect of gender in Internet banking

adoption, it was assumed that male customers adopt Internet banking faster than female customers.

ix. *Age*

Morris & Venkatesh (2000) found evidence that explains the significant direct effect of age on adoption and usage behavior. They noted that majority age group in computer use in United States of America (USA) was 16-17 years followed by the age group 26-35 years. Nasri & Charfeddine, (2012) also indicated that majority of Internet users are youths and young adults. In this research work, age as a social variable can explain differences between Internet banking adoptors and non-adoptors. To explain the effect of age on behavior intesion it is assumed that there will be differences between adoptors and non-adoptors in terms of their age.

x. *Education*

A large body of prior research has shown that highly educated people tend to adopt new technologies faster than those with less education (Welch, 1970; Wozniak, 1987) cited by (Craig & Song, 2012). Different scholars have indicated direct correlation between education level and technology adoption (Lleras-Muney & Lichtenberg, 2002). Nasri & Charfeddine, (2012) also indicated that majority of Internet banking users tend to be highly educated. Individuals need cognitive skills to use new technologies. Eduction is therefore considered an independent variable in explaining difference between Internet banking users and non-users.

xi. Income levels

Dickson (2000) suggests that income and education levels are especially relevant in explaining adoption and use of Internet services and other technologies. Adoption of Internet banking services involves several costs, in terms of the financial resources. Highly educated people tend to earn more money and have resources to try and adopt new technology faster than those with less income (Dickson, 2000). This study assumes that those with higher income will adopt and use Internet banking more than those with lower income.

xii. Occupation

Better educated individuals tend to have better paying occupations than those who are not well educated (Schiffman & Kanuk, 2000). One's level of education can therefore affect strongly on their ability to secure better jobs and in turn generate good income. Individuals with little education rarely qualify for high-level occupations (Schiffman & Kanuk, 2000). Karjaluoto, Mattila, & Pento, (2002) relates this to Internet banking. Those currently using online services are well-educated and have better occupations than non-users. The researcher assumed that consumers with better occupation adopt and use Internet banking more than those in lowly occupation.

2.8 Chapter summary

The chapter discussed prior work on factors affecting adoption of Internet banking. Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB) and Innovation Diffusion Theory (IDT) were examined. Although the models and theories are different, it was observed that there are some similarities in the underlying factors. Based on these theories and models, a new theoretical framework was developed.

It was noted from the literature review that Internet banking offers many opportunities to both the bank and its customers. The advantages include reduced operation cost and convenience. Even though Internet banking has received much praise as to its benefits, its adoption and usage is very low in Malawi.

The review explored the relevant areas in Internet banking research, most researched issues and key findings. Theories as they relate to technology adoption were examined and used as baseline for a new model that was used in this study. It was observed that although different factors were identified as having a significant influence on the adoption of Internet banking, several factors such as social influence, demographic factors and other facilitating conditions as they relate to Internet banking adoption have not been fully examined. It was also noted that most of the studies on Internet banking have taken place in developed countries and focused on consumer attitude.

Results of the literature review and subsequent discussions provided evidence that indicated the need for more studies to focus on other factors that influence the adoption of Internet banking in developing countries like Malawi. In view of this, a model was developed on factors that influence adoption of Internet banking by consumers in Malawi which included demographic factors as suggested by some researchers.

Chapter 3

Methodology

Introduction

This chapter discusses the methodology used to answer the research questions of this study. Sections 3.1 through section 3.4 presents research aims, approach, sampling techniques and data collection method. Validity and reliability of measurement tool used in data collection is provided in section 3.5.

3.1 Aim of the research

The aim of this work was to identify key factors which affect Internet banking adoption in Malawi. The following were the specific research objectives:

- To investigate the characteristics of Internet banking users.
- To identify the factors that influence the adoption and use of Internet banking among consumers in Malawi.
- To measure the association between the factors (demographic, perception and attitude) and adoption of Internet banking.

3.2 Research approach

The research used deductive research approach which is defined as logical process of deriving conclusion from unknown premise to be true (Zikmund, 2000). Prior research work was used to relate the findings of this study to draw conclusion.

Deductive approach is ideal where time is a limiting factor, unlike inductive research which consumes a lot of time.

3.3 Sampling techniques

The study population was all people banking with a bank which had implemented Internet banking. Both customers who had and had not used the online banking service were targeted. Because it was not possible to collect data from all customers banking with the banks that had implemented Internet banking, purposive sampling technique was used to select banks to be investigated.

Out of the nine banks which had implemented Internet banking, four banks, National Bank, Standard Bank, Eco Bank and FDH Bank were sampled as they were considered major banks in Malawi based on profit and asset base. Two branches for each bank were conveniently selected. One from Lilongwe in the central region another from Blantyre in the Southern region.

Below is a table showing banks and branches that were selected for data collection.

Table 3:1: List of branches where data was collected.

Bank Name	Branch	District	Date
National bank	Henderson street	Blantyre	20 Oct 2015 to 04 Nov, 2015
Standard bank	Blantyre Branch	Blantyre	20 Oct 2015 to 04 Nov, 2015
Eco bank	Blantyre Branch	Blantyre	20 Oct 2015 to 04 Nov, 2015
FDH bank	Blantyre Branch	Blantyre	20 Oct 2015 to 04 Nov, 2015
National bank	Capital City	Lilongwe	09 Nov, 2015 to 17 Nov, 2015
Standard bank	Capital City	Lilongwe	09 Nov, 2015 to 17 Nov, 2015
Eco bank	Cross roads	Lilongwe	09 Nov, 2015 to 17 Nov, 2015
FDH bank	City centre	Lilongwe	09 Nov, 2015 to 17 Nov, 2015

The banks sampled could not provide contact details of their customers, as a result the participants were randomly selected. Questionnaires were distributed randomly to bank customers who were coming out of banking halls of the selected branches

between 10:00 hours and 14:00 hours. Contacts details of those who accepted the questionnaires were recorded for follow-up purposes. A total of 302 questionnaires were administered to bank customers.

3.4 Data collection

To collect relevant data and answer the research questions, a questionnaire and face to face interviews were used. To identify the factors that affect consumers in Malawi to adopt and use Internet banking the following data was collected; customer age, gender, education qualifications, monthly income, Internet usage habits and job position. Data on consumer service awareness and social influence was also collected from customers using the same questionnaire.

The questionnaire also collected data on consumer perception and attitudes. These were measured under perceived usefulness, perceived ease of use, perceived security and technology trust. This information was useful in providing both the factors affecting Internet banking adoption and the characteristics of the respondents for both users and non-users.

Items to measure behavioral intention, attitude and perceptions were generated based on the procedures suggested by Ajzen & Fishebein (1980) and Nor & Pearson (2008), containing a minimum of three items. Attitude and perception of respondents was measured by a five (5) level Likert scale. The levels were strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5).

3.5 Reliability and validity of measurement instrument

It is very easy to get wrong answers from a research. To avoid this, attention was paid in the reliability and validity of measurement instruments which was the questionnaire.

3.5.1 Reliability

Reliability of measurement instrument is testing for both consistency and stability of the questionnaire. Consistency indicates how well the items measuring a concept hang together as a set (Sekaran & Bougie, 2010). The role of reliability is to reduce the errors and biases in a study. Easterby-Smith, Thorpe, & Lowe, (1991) proposes that the following questions must be answered in testing measurement instrument for reliability.

1. Will the measurement yield same results on another occasion?
2. Will similar observations be reached by another researcher?
3. Is there transparency on how sense was made from raw data?

Cronbach's alpha was used in order to measure the reliability of the information and results obtained through the questionnaire. Cronbach's alpha is a reliability coefficient that indicates how well the items in a set are positively correlated to one another. Generally reliabilities that are less than 0.60 are considered poor, and those that are above 0.70 are excellent (Sekaran & Bougie, 2010). This is the scale that was relied upon to determine the reliability of the factors. Results of reliability tests are shown in Table 3:2 and Table 3:3 which indicate excellent results.

3.5.2 Validity

This refers to the degree to which a measurement method or instrument actually measures the concept in question. The measuring instrument must (1) actually measure the concept and not some other concepts and (2) measure it accurately. To test validity of the questionnaire, the questionnaire was reviewed by two study supervisors who proposed changes and suggested some corrections to ensure improvement of the validity of the instrument. The questionnaire was subsequently amended in accordance with their instructions and recommendations.

Table 3:2: Cronbach's alpha tests for the independent variables

Variable	No. Of Items	Cronbach's Alpha
Internet Banking service awareness (IBA)	3	0.8637
Perceived security and Trust (PSEC)	4	0.8536
Social Influence (SOI)	3	0.8053
Perceived ease of use (PEU)	4	0.8121
Perceived usefulness (PU)	4	0.7743
Attitude	3	0.7489

Table 3:2 shows Cronbach's alpha tests results for the independent variables. All variables were measured by a minimum of three questions and result for each was above 0.7 which is excellent.

Table 3:3: Cronbach's alpha tests for the dependent variables

Variable	No. Of Items	Cronbach's Alpha
Internet banking adoption	3	0.9008

Results in Table 3:3 show that Cronbach's alpha tests for the dependent variable was above 0.9 which is excellent. This means that the reliability of the measurement instrument is acceptable.

3.6 Data analysis and interpretation of results

The data was coded into a computer file so that statistical software could be used to analyze it. STATA version 11.2 program was used to analyze the data. Descriptive and inferential statistics that were used to analyze the data were Cronbach's Alpha for reliability measure, descriptive statistics was used to measure frequency distribution, percentages and mean. Multiple regression was used to measure the association between demographic variables and Internet banking usage.

3.7 Chapter summary

In this chapter the research methodology to answer research questions was presented. The research method was provided, including the population, sampling techniques and data that was collected. The results of validity and reliability of the questionnaire which was used to collect data was calculated and found to be acceptable.

Chapter 4

Results

Introduction

Previous chapters described the significance and methodology used in this research. This chapter presents results of the study. Data collected from the respondents were analyzed using STATA version 11.2. This chapter is divided into two parts. The first part is sections 4.1 and 4.2. These sections present the description of the data, frequency distribution and percentages that describe social demographic characteristics of respondents. The second part, section 4.3 and 4.4 is a detailed analysis of the variables relating to perception and attitudes. Association of the variables is also provided in this chapter.

4.1 Description of the data

Three hundred and two (302) questionnaires were administered, out of which 264 were received. Of the 264 questionnaires that were received, 257 were usable, and seven (7) were disqualified because they were not properly filled. The 257 usable questionnaires represented 86% of all questionnaires which provided a good coverage of the sample.

Descriptive statistics, regression analysis and analysis of variance (ANOVA) were applied to answer the research questions. The effects of continuous variables:

perception and attitude (which were measured by perceived security & trust, perceived ease of use, and perceived usefulness) taken together or separately on Internet banking adoption were tested using multiple regression analysis. ANOVA was used to test the effects of social demographic elements such as gender, age, education and income level on Internet banking adoption and usage.

The research assumed that social demographic factors, perception and attitude have an effect on the adoption and use of Internet banking in Malawi. However, the extent to which these factors affect Internet banking was unknown. The factors were analyzed and results are presented in sections that follow.

4.2 Characteristic of Internet banking users and non-users

The first objective of this study was to investigate characteristics of Internet banking users and non-users. To address this objective, social demographic characteristics of users and non-users were analyzed. Figure 4.1 shows the percentage of Internet banking users and non-users who participated in the study. Out of 257 respondents, 51% had used Internet banking before while 49% had not.

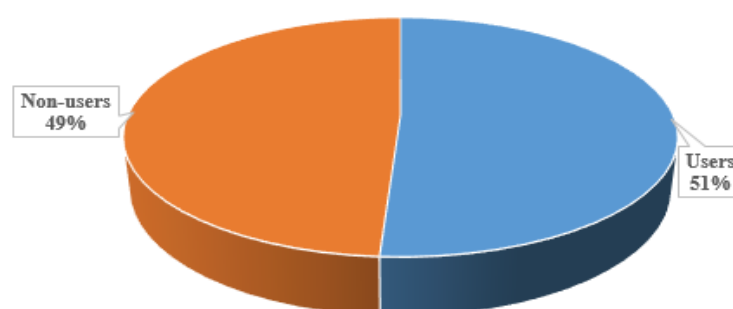


Figure 4.1: Internet banking users and non-users

Below are detailed results of descriptive statistics on factors affecting Internet banking adoption and use in Malawi.

i. Gender

Gender of users and non-users were analyzed to determine if it had an effect on Internet banking adoption and use.

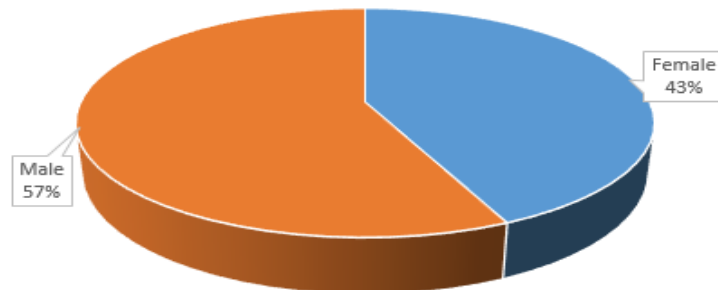


Figure 4.2: Gender of study participants

Figure 4.2 shows the distribution of participants. There were 111 females representing 43% and 146 males representing 57%. This indicates that both males and females were fairly represented in the sample size of this research. This however, should not be taken as an indication that both the male and female respondents use Internet banking equally.

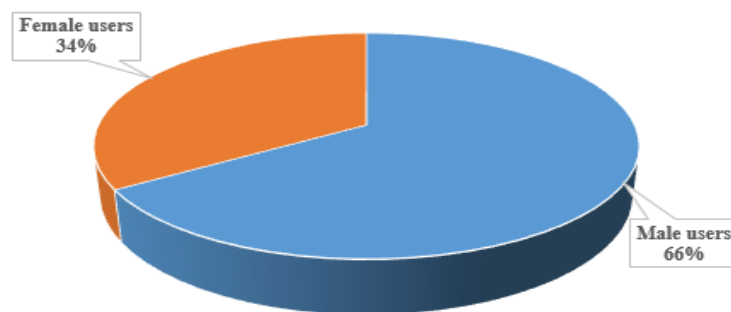


Figure 4.3: Gender of Internet banking users

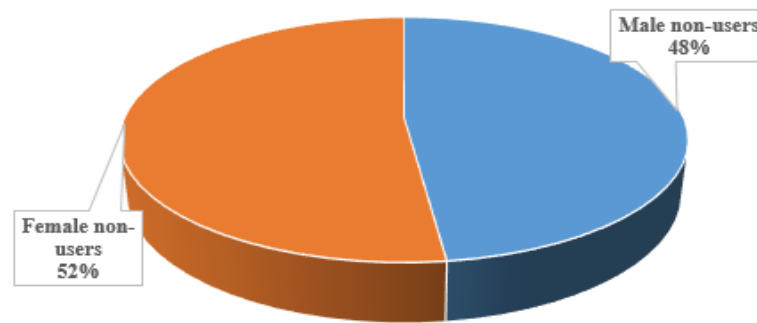


Figure 4.4: Gender of non-users of Internet banking

Based on Figure 4.3 and Figure 4.4, 66% of Internet banking users were male and 34% were female. On the other hand, 52% of non-users were female and only 48% were male.

Analysis of variance for Internet banking adoption according to gender showed that males had a higher level of Internet banking adoption than females with a mean of 0.5890 and a standard deviation of 0.4937 while females had a lower level of Internet banking adoption. The values were statistically significant at 0.05, which meant that there was a statistically significant difference in Internet banking adoption due to one's gender. These results show that males adopt Internet banking more than females.

ii. Age

To investigate the effect of age on Internet banking adoption and use, the age of Internet banking users and non-users were analyzed. Results of this analysis are provided in Figure 4.5.

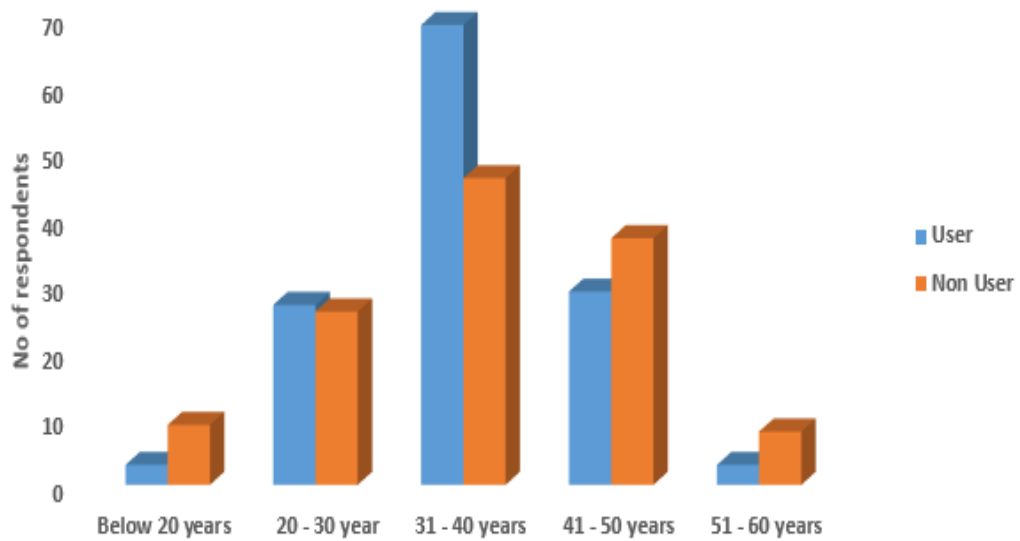


Figure 4.5: Age groups of Internet banking users and non-users.

On age variable, Figure 4.5 shows age groups of respondents. Close to half of the respondents, 45% were in the 31 to 40 year age group. Age groups 20-30 and 31- 40 made up over 65% of respondents. About 70% of Internet banking users were between 20 and 40 years of age and 57% of non-users were also in the same age group.

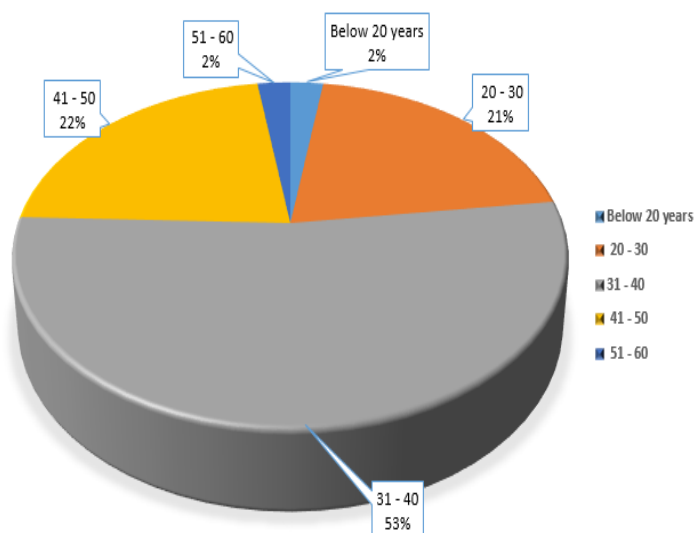


Figure 4.6: Age groups of Internet banking users

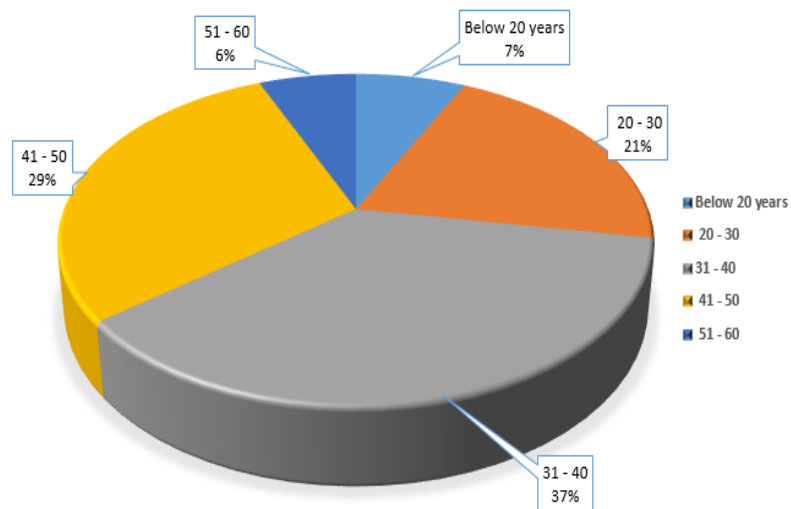


Figure 4.7: Age group of non-users of Internet banking

Results in Figure 4.6 show that Internet banking users were relatively middle aged, about 53% were in the 31- 40 year age group and only 37% in the same age group were non-users as shown in Figure 4.7.

iii. Education

To evaluate if education levels had an effect on Internet banking adoption, education qualifications of Internet banking users and non-users were analyzed.

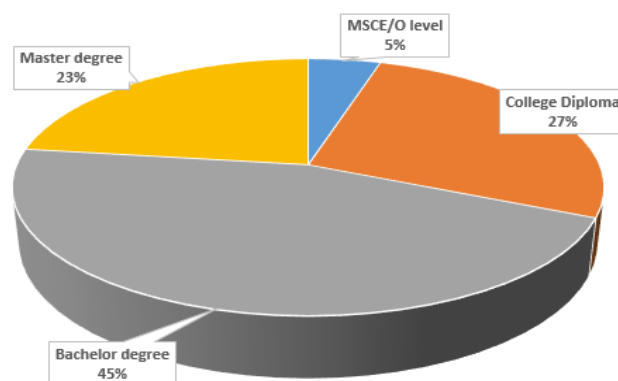


Figure 4.8: Education levels of respondents

The education levels of the participants varied widely. Figure 4.8 show education levels of respondents of the study. Results show 45% of the respondents had

Bachelor's degree, 23% Master's degree, 27% college diploma and 5% Malawi School Certificate of Education (MSCE). Analysis of users and non-users provided following results.

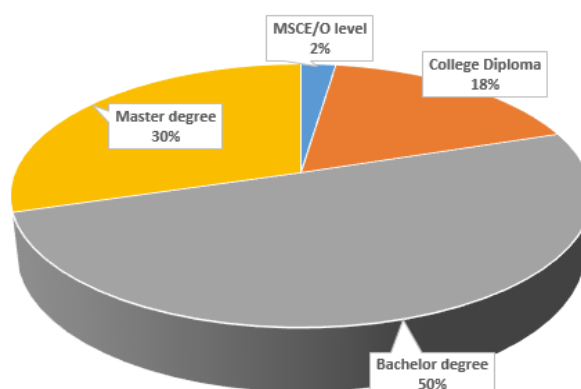


Figure 4.9: Education levels of Internet banking users

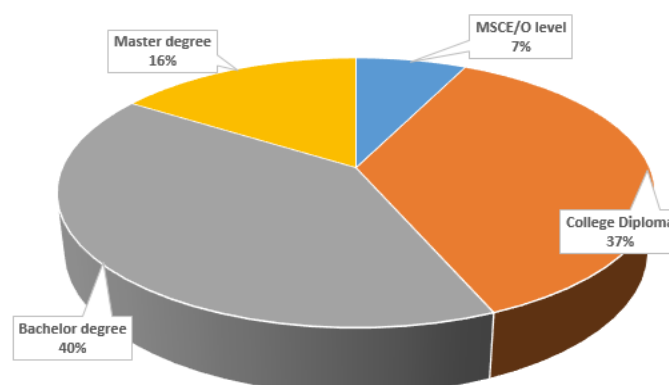


Figure 4.10: Education levels of non-users of Internet banking

Figure 4.9 and Figure 4.10 compare the education levels between Internet banking users and non-users. Results show 80% of Internet banking users had a university degree or above and only 56% of non-users had tertiary education. It can therefore be said that education levels had an effect on Internet banking adoption in Malawi.

iv. Type of Employer

To investigate if the employer of respondents had an effect on Internet banking adoption, respondents' employer for both users and non-users were analyzed. Results of this analysis are shown below in Figure 4.11 and Figure 4.12

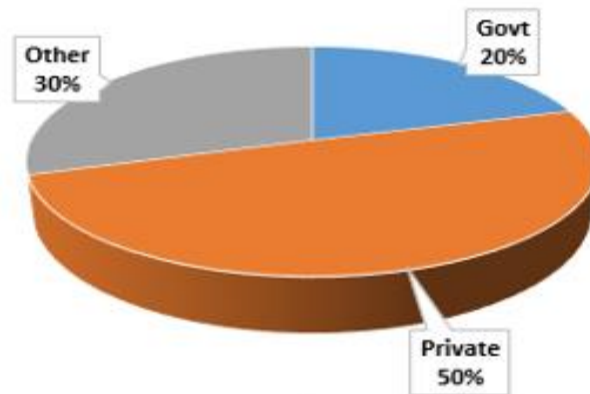


Figure 4.11: Internet banking users by employer sector

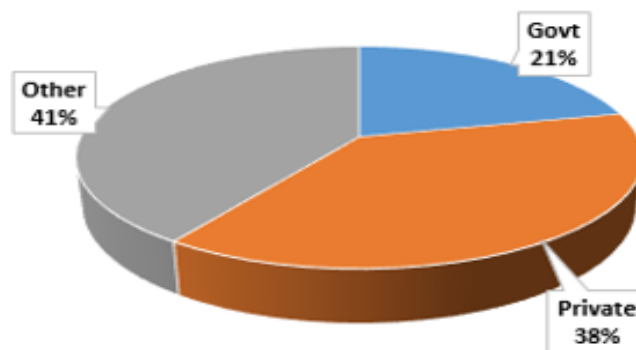


Figure 4.12: Internet banking non-users by employer sector

Results in Figure 4.11 and Figure 4.12 show that 50% of Internet banking users were employed in private sector and only 38% of non-users were in private sector. Analysis of variance for Internet banking adoption according to employer also showed that those in private sector adopted Internet banking more than in other sectors. This means that there was a significant relationship in Internet banking adoption with respect to one's employer.

v. Occupation

To investigate effects of respondent's occupation on the adoption and use of Internet banking, employment data for Internet banking users and non-users were compared. Results of this analysis showed that 17% of Internet banking users were in financial institution, 16% were in retail, 13% IT related, 10% telecommunication, 8% humanitarian, 7% manufacturing and 29% other sectors. The respondents' nature of occupation was widely distributed and inconclusive.

vi. Income Level

To analyze effect of income levels on adoption and use of Internet banking, monthly income of Internet banking users and non-users were analyzed. Results are presented in Figure 4.13.

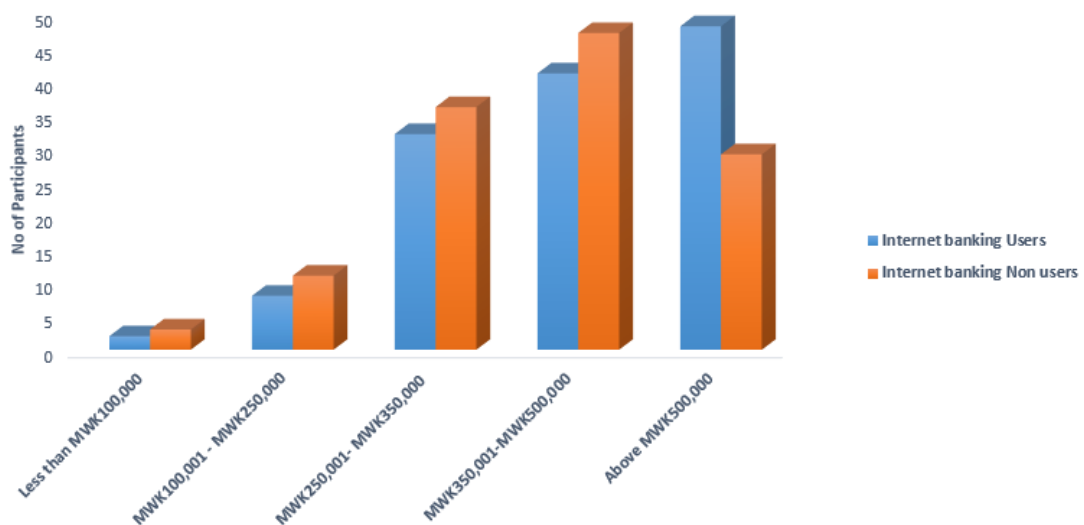


Figure 4.13: Monthly Income levels of users and non-users of Internet Banking.

Figure 4.13 shows that there was higher adoption among higher income respondent as compared to those with smaller income. Over 65% of users had income of above MWK350,000 and 62% of customers who earned above MWK500,000 used Internet banking. Results also show that 40% of non-users earn less than MWK350,000.

From the analysis above, Internet banking users and non-users had different demographic characteristics. Users of Internet banking were male, young, highly educated with relatively high income. Results of occupation were widely spread and inconclusive.

4.3 Mean and standard deviation levels applied to attitude and perception

A five (5) point level Likert Scale was used to measure variables that relate to attitude and perception. The levels were strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5). Attitude and perception were measured by variables: service awareness, social influence, perceived security & trust, perceived usefulness, perceived ease of use and intention to use Internet banking. Results of each of the constructs used to measure attitude and perception are presented in the following section.

Table 4.1: Relationship between variables

	Internet banking service awareness	Social Influence	Perceived security & Trust	Perceived ease of use	Perceived usefulness	Attitude toward Internet banking	Intention to use (Internet banking adoption)
Mean	3.045	2.479	3.307	3.712	4.035	3.911	3.242
Standard Deviation	1.145	1.101	1.046	1.604	0.877	0.845	1.251

Dependent variable is the Intention to use (Internet banking adoption).

The results show that perceived usefulness was reported to have the highest mean score of 4.035, followed by attitude toward Internet banking with a mean of 3.911. All variables had mean of above 3.0 except social influence which had mean of 2.479.

This means that the mean scores reported were more towards “agree” opinions, except for social influence. The standard deviation for all the variables under investigation ranged from 0.845 to 1.604 indicating that the answers were normally distributed.

4.2.1 Mean and standard deviation for service awareness

Table 4:2: Relationship between Service awareness and Internet banking

	I receive enough information about Internet banking services	I receive enough information about Internet banking benefits	I received information about Internet banking from my bank
Mean	3.011	3.073	3.050
Standard. Deviation	1.147	1.106	1.183

The means of the questions of Internet banking service awareness as depicted in Table 4:2 ranged between 3.011 and 3.073 which is a neutral range, with a standard deviation between 1.106 and 1.183.

4.2.2 Mean and standard deviation for perceived security and trust

Table 4:3: Relationship between Security, Technology trust and Internet banking

	I trust Internet banking websites	I feel secure when I am doing my bank transaction on the Internet	I trust that my Internet banking transaction will successfully complete	Internet banking is secure and I am comfortable sending sensitive information via Internet banking
Mean	3.229	3.225	3.377	3.396
Standard Deviation	1.041	1.047	1.061	1.037

The means of the questions of perceived security & technology trust as depicted in Table 4:3 ranged between 3.225 and 3.396, with a standard deviation between 1.037 and 1.061. These results indicate that the customers moderately feel secure or trust Internet banking technology. This feeling hinders customers from fully adopting Internet banking.

4.2.3 Mean and standard deviation for social influence

Table 4:4: Relationship between Social influence and Internet banking

	Most of my colleagues use Internet banking	My Internet banking use is influenced by friends and family	My Internet banking use is influenced by my employer
Mean	2.599	2.443	2.394
Standard Deviation	1.124	1.066	1.111

Social influence was reported to have the lowest mean scores ranging between 2.394 and 2.599, with the standard deviation ranging between 1.066 and 1.124 as shown in Table 4:4. This indicates that Malawians are not influenced by their social network to use Internet banking.

4.2.4 Mean and standard deviation for perceived ease of use

Table 4:5: Relationship between Perceived ease of use and Internet banking

	Internet banking is easy to use	Internet banking interaction and use is clear and understandable	Internet banking does not require mental effort	Overall, I find the use of Internet banking services easy
Mean	3.459	3.544	3.622	4.035
Standard Deviation	1.128	1.071	1.050	0.849

The mean of the questions under perceived ease of use as presented in Table 4:5 ranged between 3.459 and 4.035 which is relatively higher, with a standard deviation between 0.849 and 1.128. These results indicate that an easy to use technology assist in building and enhancing the good image of the product.

4.2.5 Mean and standard deviation for perceived usefulness

Table 4:6: Relationship between Perceived usefulness and Internet banking

	Internet banking enables me to accomplish my tasks more quickly	Internet banking makes it easier for me to carry out my tasks	Using Internet banking increases quality of my output	Overall, I find using the Internet banking to be advantageous and useful
Mean	4.070	4.015	3.988	4.066
Standard Deviation	0.894	0.870	0.949	0.796

Based on Table 4:6 perceived usefulness was reported to have the highest mean scores of 4.07 for the first question, followed by question 4 (mean = 4.066), then question 2 (mean = 4.015) and question 3 scored a mean of 3.988. This indicates that customers generally believed in the perceived usefulness of Internet banking.

4.2.6 Mean and standard deviation for intention to use Internet banking

Table 4:7: Relationship between Behavior intention and Internet banking

	I will start using Internet banking for my banking needs	Using Internet banking for handling my banking transactions is something I intend to continue doing	I will use internet banking on regular basis in the future
Mean	3.245	3.249	3.233
Standard. Deviation	1.185	1.277	1.289

Table 4:7 shows that the mean of the questions on Internet banking adoption, measured as intention to use ranged between 3.233 and 3.249 with a standard deviation ranging between 1.185 and 1.277. The high mean score was from question 2, indicating that the customers intended to continue using Internet banking service, and the minimum mean score resulted from question 3.

4.2.7 Mean and standard deviation for attitude towards Internet banking

Table 4:8: Relationship between Attitude and Internet banking

	I feel that using Internet banking is pleasant and smart way of doing business	I will strongly recommend others to use Internet banking	Overall, my attitude towards Internet banking usage is positive and using Internet banking is a wise idea.
Mean	3.914	3.914	3.906
Standard Deviation	0.829	0.897	0.811

The mean of the questions under attitude towards Internet banking are presented in Table 4:8 and mean scores for the questions ranged between 3.906 and 3.914 which is very close to agree opinion, with a standard deviation between 0.811 and 0.897. These results indicate that customers had positive attitude toward Internet banking service.

4.4 Association between factors affecting adoption of Internet banking

In order to investigate possible association between variables, to satisfy the third objective, coefficient of correlation was calculated for all variables.

Multicollinearity analysis

The term collinearity implies that two variables are near perfect linear combinations of one another. In the study, there were predictors that were correlated with other predictors. For example ease of use and usefulness, education and income. These factors do not only affect Internet banking in the model, they affect each other as well, hence multicollinearity test.

Multicollinearity analysis is an important test in multiple regression analysis. Multicollinearity is found when there is a correlation between two or more independent variables in the regression model. The collinearity exists when one of the independent variables has a perfect linear correlation with other variables.

The p-value of the F-test was calculated to see if the overall model was significant. The value was 0.0000. With a p-value of zero to four decimal places, the model appeared to be statistically significant. The R-squared was 0.7308, meaning that approximately 73% of the variability of Internet banking access was accounted for by the variables in the model. The adjusted R-squared indicates that about 72% of the variability of Internet banking access was accounted for by the model.

In this study, Variance Inflation Factor (VIF) and the tolerance were used to measure Multicollinearity. As a rule, a variable whose VIF values are greater than 10 are considered unreliable and may merit further investigation. Tolerance is defined as $1/VIF$ and is used to check on the degree of collinearity. A tolerance value lower than 0.1 is comparable to a VIF of 10 (Idre, 2016).

VIF values for the study were between 1.14 and 1.59 which was acceptable, as for the tolerance, it ranges between 0.628 and 0.874 which was also acceptable and are shown in Appendix C. This indicates that there was no collinearity within the data, hence no biased regression model. This implies that there was no problem in the research model.

Regression analysis was used to measure the effects of the independent variables on dependent variable, Internet banking adoption. The results of this analysis showed that all the correlation were in the expected direction and provided support for the assumptions set in section 1.5 of Chapter1. Detailed results of regression analysis are provided in Appendix C.

Correlation coefficient is a statistical technique that shows whether and how strong variables are related to each other. Correlation coefficient R is equal to 0.8548, which means that there was a strong positive relationship between the independent variables taken together and the Internet banking adoption. The coefficient of determination (R^2) presents the percentage of the variation in the dependent variable explained by the regression model. In this study, $R^2 = 0.7308$ which means that 73% of the changeability of Internet banking adoption has been explained by the independent variables taken together.

Adjusted R^2 value of this study equals 0.7232, which was very close to R^2 value of .7308, since adjusted R^2 values are always less than or equal to R^2 . This means that if the model has been fitted, for the whole population that participated rather than those who responded in the study, there would be less variance in the model outcome 0.007

(0.7308 -0.7232). Adjusted R^2 is generally considered to be more accurate goodness-of-fit measure than R^2 . Thus there was a significant relationship between the independent variables (service awareness, perceived security & trust, perceived usefulness, perceived ease of use, social influence and attitude) taken together and Internet banking adoption.

4.5 Chapter summary

This chapter presented the results of the data analysis. Social demographic factors together with customer attitude and perception were analyzed. Descriptive statistics and regression techniques were used to test the assumptions. Results indicated that all tested variables except social influence had an effect on Internet banking adoption. Perception of users on Internet banking was positive than for non-users. It was also observed that social demographic characteristics (gender, age, education levels and income) have an effect on technology adoption. All STATA result can be found in Appendix C.

Chapter 5

Discussion

Introduction

This chapter discusses the results as presented in the results chapter. Synthesis with prior research work which supports or contradicts the findings of this research work has been made.

5.1 Effects of social demographic characteristics on Internet banking

Using the commonly supported information technology adoption models, this study examined the factors that affect adoption of technology in Malawi, particularly Internet banking. The study extended Technology Acceptance Model (TAM) by including social demographic factors and Technology trust. The factors were theoretically justified to determine their influence on behavior or intention to use Internet banking.

The researcher made assumptions on effects of social demographics factors like gender, age, education level and income levels. From the results obtained during data analysis, it is clear that all variables have an effect on Internet banking. These assumptions were tested using different statistical methods. The conclusions drawn about the effects of social demographic factors and attitude on consumers' adoption and use of Internet banking are discussed below:

i. Gender

Results showed that males adopted Internet banking more than females in Malawi. This confirms the assumption that there is a direct relationship between gender and adoption of Internet banking. These results are consistent with the findings from prior research. Venkatesh, *et al* (2000) investigated gender differences in the context of individual adoption and sustained usage of technology in the workplace using the Theory of Planned Behavior (TPB) and found that males adopted technology more than female. Similarly, there has been studies to compare women and men, in terms of technology usage. See Minton, *et al.*, 1971 as cited by Venkatesh, *et al.*, (2000) that made a similar observation. Therefore, gender differences are very important in influencing the adoption and use of a technological innovation. This observation is important to bank managers to consider gender of their customers when developing their Internet banking marketing programs.

ii. Age

Results showed that age is related to the adoption of Internet banking. This finding is consistent with findings by Polatoglu & Ekin (2001). Waite & Harrison (2004) also found that adoption of Internet banking among young consumers seem to be a common phenomenon in different cultural environment in different countries. This is obvious because younger consumers are technology savvy and more likely to adopt new technology such as Internet banking. This observation also confirms the assumption that there is a difference in terms of age between adoptors and non adoptors of Internet banking technology in Malawi.

Findings of previous studies (Selwyn, Gorard, Furlong, & Madden, 2003) for example indicate that age is highly significant in whether an individual can access and make use of ICT such as the computer and the Internet. They also concluded that using a computer is not only a minority activity amongst older people but also highly stratified activity by gender, marital status, educational background, and age.

Adult individuals are less interested in online services, as they manifest stronger desires for social interactions and are less receptive to use technological innovations (Madden & Savage, 2000). This observation is very important. Marketing strategy for innovation and IT related products should consider age of the targeted market. Bank managers should therefore intensify their marketing strategy toward the youth.

iii. Education

High education levels are particularly significant in both groups of users and non-users in this study, possibly because over 65% of respondent had a university degree. Results of this work showed that 80% of Internet banking users had university degree or above. On the other hand, only 56% of non-users had bachelor's degree and 44% of non-users had diploma or below.

The findings agree with Suganthi, Balanchander, & Balanchandran, (2001) who indicated that 86.2% of Internet banking users are graduates and undergraduates. Another study by Kolodinsky, *et al* (2002) indicated that acceptance and usage of Internet banking and any other form of e-banking increases with level of education. Another research indicated that high levels of education enhance the consumer's ability to process more complex information and make decisions (Polatoglu & Ekin,

2001). This confirms the assumption that there is a statistical difference in Internet banking adoption according to education level.

iv. Occupation

Results on Occupation were found to be inconclusive in this study. But One's occupation is very much affected by education levels. Education can affect strongly one's ability to secure a job. Better educated individuals tend to have better paying occupations than those who are not well educated. High income usually require advanced educational training. Individuals with little education rarely qualify for high-level occupations.

The study showed that most of Internet banking users were in Telecommunication and IT related jobs. These results agree with Schiffman & Kanuk (2000) who found that occupation is one of key factors influencing consumers to use online services. We can therefore conclude that Internet banking users are well-educated and have better occupations than non-users. The challenge facing banks in this regard is to find ways of making Internet banking equally attractive to the majority of their clients who are not employed or in high paying jobs.

v. Income

Results of the study showed that 68% of Internet banking users had income above MWK350, 000 (USD 480) per month in 2015. In Malawi, this is way above average income of middle income group. On the other hand 40% of non-users of Internet banking had income of less than 350,000MWK. This observation indicates that high

income is a factor that affects adoption of Internet banking in Malawi. This observation conflicts with the studies by Howcroft, *et al.*, (2002) and Chang, (2003) who indicated that higher income consumers have greater preference for branch banking transaction than online banking. But the finding concurs with the study by Karjaluoto, *et al.* (2002) which showed that income has a major effect on the adoption of Internet banking.

Internet banking users in Malawi generally earn higher than non-users. Therefore, we can conclude that income is positively related to the adoption of Internet banking in Malawi. This observation agrees with observations made by Choudrie & Dwivedi, (2005) that economic status for individuals influence their ability to own and use technology. Ismail and Osman, (2012) also noted that high-income clients use e-banking more frequently than low-income clients. People with higher income adopt technology much faster than those with less income (Craig & Song, 2012; Washington, Wirimayi, & Muvhunzi, 2012).

5.2 Effects of perception and attitude on Internet banking

The second factor that affects adoption of technology besides social demographic factors is individual's attitude towards the technology. In this study, customer attitude towards Internet banking was measured under service awareness, perceived usefulness, perceived ease of use, social influence, security and technology trust. Results of each of the factors as observed in the previous chapter are discussed in the following section.

i Internet banking service awareness

It was observed that Internet banking service awareness had positive effect on Internet banking adoption. Results showed significant relationship between the two. This agrees with the findings of other researchers that unless consumers are aware of the service and its importance they will not adopt it (Chen, Rai, & Krishnan, 2014). This means that banks should consider launching campaign to demonstrate features and importance of Internet banking.

ii Perceived usefulness

Perceived usefulness was also found to have a positive effect on intention to adopt Internet banking. Agarwal & Prasad (1998) found similar results. They observed that relative usefulness of an innovation is positively related to its rate of adoption and use. Perkins & Annan, (2013) also observed that Perceived Usefulness was important in Internet banking adoption. Therefore, it is correct to suggest that the way people perceive the usefulness of technology such as Internet banking, could affect the rate of adoption. For example, a large number of consumers said that twenty four hour service availability was the most important factor in their use of Internet banking. This was also the finding in the study by Lockett & Littler, (1997). Once consumers perceive technology as useful, and that its advantages outweigh disadvantages, they are more likely to adopt it. Bank managers should therefore formulate their advertisements to portray the benefits of Internet banking technology.

iii Perceived ease of use

With regards to perceived ease of use, the study found that there was a relationship between perceived ease of use and intention to use Internet banking. Consumers reject

an innovation if they perceived it to be complex or not user friendly. Cooper & Zmud (1990) also identified ease of use of innovative products or services as one of the important characteristics for adoption from the customer's perspective.

In his book *Diffusion of innovation*, Rogers (2003) identified complexity of innovation as a factor in adoption of technology. This was also observed by Perkins & Annan, (2013). This means the user-friendliness of domain names, navigation tools and the graphical user interface (GUI) are important determinants of the user-friendliness of Internet banking web page design. Thus banks should take these factors into account when developing Internet banking sites.

iv Social influence

Effect of social influence on Internet banking adoption appeared to be unimportant in this study. This social influence included opinions of friends, parents, employer and colleagues. This finding agrees with findings of Tan & Teo (2000) that social influence has no or little influence on Internet banking adoption. This might be possible because potential users can get relevant information directly from their banks and not from their social network. On the other hand, Kelman (1958) pointed out that social influence is important in technology adoption and use but the behaviour is not sustainable in the absence of external pressure.

Venkatesh and Davis (2000) used the construct of subjective norm to capture social influence in their model of TAM2. They suggested that in mandatory contexts, social influence has a direct effect on intention to use. However, researchers find social influence to have inconsistent role in the empirical studies. Some researchers have

reported empirical evidence to suggest that this construct is significant (Hartwick & Barki, 1994). In this work, no significant relationship existed between social influence and Internet banking adoption.

v Security and Technology trust

It was found that customer's confidence in the security system provided by the Internet banking technology had negative effect on intention to use Internet banking. According to Liu & Arnett (1999), the need for secure transactions is critical to the success of not only Internet banking but that of any e-commerce related to website. Consequently, the lower the perception of risk in using Internet banking the more likely an individual would be prepared to use it.

Security and privacy are vital factors that are taken into consideration by customers before adopting an innovation that involves risk. Security has been identified as an influential factor for customers' acceptance (Daniel, 1999). In this context, security refers to transactions' security and reliability of the Internet. Unless customers perceive Internet banking as secure and safe, they will not adopt and use it.

Most non-users expressed reservation towards Internet banking because they felt it was unsecure. Banks, therefore, must implement access controls, authentication procedures, encryption, firewalls, audit trails, non-repudiation mechanisms and other security features to secure their online services to reduce consumer fear toward online services. This agrees with Geetha and Malarvizhi (2011) who proved that good security and privacy level increased the acceptance of e-banking services among customers in India. Their findings also showed that customers were willing to adopt e-

banking when they got provided with guidance and safety of their accounts. On the contrary, Widjana & Rachmat, (2011) showed that security does not affect the usage of e-banking service.

5.3 Chapter summary

The study observed that social demographic factors have an effect on Internet banking adoption. Males adopted Internet banking more than females. Using Internet banking required some level of cognitive skills, and education provides such skills. Those with university education adopted Internet banking more than those without. Middle aged consumers adopted Internet banking more than all other ages.

The effect of attitude and perception was also evident in the study. Social influence did not support earlier assumption that it affects Internet banking adoption and use in Malawi. Banks should therefore invest a lot in their marketing programs to improve customer attitude towards Internet banking.

Chapter 6

Conclusion

The chapter provides a conclusion, practical contribution and suggestion of future work to be carried on the subject. The main objective of the study was to identify factors affecting Internet banking adoption and usage in Malawi. The following research questions were raised and answered in this study:

- a) What are the characteristics of Internet banking users?
- b) What are the factors that affect adoption and use of Internet banking as a service delivery channel in Malawi?
- c) What can banks do to influence customers to adopt Internet banking services delivery channel?

The study investigated and analyzed the factors that affect Internet banking adoption in Malawi. It conceptualized how social demographic characteristics such as age, gender, education, income, consumers' perception and attitude (service awareness, perceived usefulness, perceived ease of use, social influence and security & technology trust) affected the adoption of Internet banking in Malawi.

All continuous variables were measured using 5 point Likert scale. Results showed that there was a significant relationship between social demographic factors, attitude and perception with Internet banking adoption. In general all variables except social

influence were considered important by bank clients to adopt and use Internet banking.

The study observed that developers and innovators should come up with easy to use technology. Perception of users towards technology as easy to use influences their attitude to adopt the technology and possibly consider it useful. Security and trust toward Internet banking was also important to respondents and this relates to customers judgment and attitude towards security and privacy. Developers and banks should therefore design secure website, with enough controls to assure client of their commitment to secure banking solution. When consumers notice that banks treat security seriously, they will easily adopt Internet banking.

Service awareness is another important factor. Banks should invest more in publicizing the Internet banking services and products. Consumers need to know the available service on Internet banking platform, they need to know its benefits. If this is done properly, they will be willing to adopt this banking channel. Therefore, banks should make Internet banking information available on their corporate website and fliers in the banking hall. Banks can even use different media channels like radio, Television and newspapers to publicize alternative banking channels such as Internet banking.

Social demographic factors are also very important. It was observed that males have a higher level of Internet banking adoption than females. It was also noted that most users are middle aged, with a university degree or above. This means that young individuals tend to be more open towards technologies. Young individuals adopt

technology faster possibly because they are economically active and are well conversant with technology.

The study also found that education and occupation have an impact on Internet banking adoption as most Internet banking users tend to be highly educated and employed in better positions than non-users. The challenge facing banks is to find ways of making Internet banking equally attractive to the majority of their clients who are not employed in higher paying jobs, have low education and with low income. This requires aggressive marketing. Bank managers can develop marketing strategies to target such individuals.

6.1 Recommendations

The findings of the study are particularly important from managerial and marketing perspectives. Generally, the findings show that a positive relationship exists between adoption of Internet banking and variables such as gender, income, education and age. The results were inconclusive on effects of occupation on Internet banking but a link can be established between education and occupation. There is also direct relationship between Internet banking and attitudes. In this study, attitude was measured by service awareness, perceived usefulness, perceived ease of use, social influence, security and technology trust. The results present important lessons for bank managers.

Marketing campaigns should be age sensitive to appeal to the right age. The young generation tend to adopt technology early whilst the older generation does not adopt or are late in adopting technology. Hence, marketing to the older generation should be

aimed at creating awareness. For the affluent that are quick to adopt new technology, marketing campaigns should be centered on maintaining interest. Banks should also invest in developing easy to use applications (web interface) and they should promote the service so that users are aware of Internet banking and its benefits. Managers should work on changing client attitude towards Internet banking especially on security. It is important that banks focus on the Internet banking features, advantages and benefits other than purely building marketing strategies and campaigns focused on general banking concerns. Marketers of technology should increase customer perception of the value or usefulness in the technology to be adopted.

There is cost involved in using Internet. Internet access is very expensive in Malawi. To motivate customers to use Internet banking, banks can collaborate with Internet Service Providers (ISP) to offer free Internet access if accessing bank websites. To increase Internet banking usefulness, banks need to increase linkage with service providers and merchants. When consumers are able to transact with different service providers and merchants, they will find Internet banking more useful, thus encouraging them to transact online. Banks can also be proactive by engaging government to enact deliberate laws on e-commerce and Internet banking.

6.2 Limitations

This study was limited by time and financial resources. Limited financial resources led to concentration on customers living in Lilongwe in central region and Blantyre in the southern region of the country. It could have been desirable to interview and collect data from all the three regions of Malawi including the north. However there was limited time on which to carry out the research and submit results.

6.3 Further research work

Internet banking is relatively new innovation in Malawi. This research was unable to measure actual Internet banking usage behavior of customers. It also focused on individual users but it can be extended to corporate clients in terms of factors affecting adoption decisions. Further studies are recommended to be carried out to determine the impact of Internet banking on service quality and customer retention in light of the intense competition in the banking industry.

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APPENDICES

Appendix A

Permission from University of Malawi to conduct the study



PRINCIPAL
Richard Tambulasi, B.A (Pub Admin), BPA (Hons), MPA, Ph.D

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23 October 2015

TO WHOM IT MAY CONCERN

Mr Edmond Kungwalo, Registration Number MSc/INF/01/13 is a student at Chancellor College pursuing an MSc in Informatics under the Computer Science Department.

Mr Kungwalo would like to conduct research for his thesis. Any assistance rendered to him for the same would be greatly appreciated.

Yours Faithfully

A handwritten signature in black ink, appearing to read "K. Munthali".

Kondwani Godwin Munthali (PhD)
Coordinator, MSc Informatics
Kmunthali@cc.ac.mw – 0999387701

Appendix B

Consent Letter

To: WHOM IT MAY CONCERN

SUBJECT: Letter of Consent to participate in academic research.

I, Edmond Kungwalo, am a registered student: Master of Science (Informatics) at Chancellor College, Constituency College of the University of Malawi. Currently I am engaged in a research for my master's degree. The topic of this research is Factors affecting Consumer adoption of Internet banking in Malawi.

The main aim of this work is to investigate key factors that affect adoption and use of Internet banking as a service delivery channel in Malawi, with an objective of developing guidelines for financial institutions with regard to customer perceptions and attitudes. The work will help bank managers to direct their marketing programs to right customers. Customers in Lilongwe and Blantyre will be interviewed. A copy of the research dissertation will be available in the Chancellor College library and to banks on request.

I hereby request your consent and support in conducting this research by completing the attached questionnaire. This information will only be used for this research purpose only. Customers' identity and individual answers will be kept confidential.

Thanking you for your support.



Edmond C. Kungwalo.

Appendix C

STATA results

1.0 Descriptive statistics

Percentage of male and female participants

Gender	Frequency	Percentage	Cum percentage
Female	111	43.19	43.19
Male	146	56.81	100
Total	257	100	

Distribution of users and non-users of Internet banking by gender

Internet Banking user	Gender		
	Female	Male	Total
No	66	60	126
	52.38	47.62	100.00
	59.46	41.10	49.03
Yes	45	86	131
	34.35	65.65	100.00
	40.54	58.90	50.97
Total	111	146	257
	43.19	56.81	100.00
	100.00	100.00	100.00

Age groups of Internet banking users and non-user

Internet Banking User	Age Groups in years					
	20 below	20-30	31-40	41-50	51-60	Total
No	9	26	46	37	8	126
	7.14	20.63	36.51	29.37	6.35	100.00
	75.00	49.06	40.00	56.06	72.73	49.03
Yes	3	27	69	29	3	131
	2.29	20.61	52.67	22.14	2.29	100.00
	25.00	50.94	60.00	43.94	27.27	50.97
Total	12	53	115	66	11	257
	4.67	20.62	44.75	25.68	4.28	100.00
	100.00	100.00	100.00	100.00	100.00	100.00

Education levels of Internet banking users and non-users

Internet Banking user	Bachelors	Diploma	MSCE	Masters	Total
No	51 40.48 43.59	46 36.51 66.67	9 7.14 75.00	20 15.87 33.90	126 100.00 49.03
Yes	66 50.38 56.41	23 17.56 33.33	3 2.29 25.00	39 29.77 66.10	131 100.00 50.97
Total	117 45.53 100.00	69 26.85 100.00	12 4.67 100.00	59 22.96 100.00	257 100.00 100.00

Employer Industry of Internet banking users and non-users

		Participant occupation							
Internet User	Banking	Financial	Humanitarian	Information Technology	Retail	Telecom	Manufacturing	Other	Total
No		20	8	28	21	14	8	27	126
		15.87	6.35	22.22	16.67	11.11	6.35	21.43	100.00
		47.62	44.44	62.22	50.00	51.85	44.44	41.54	49.03
Yes		22	10	17	21	13	10	38	131
		16.79	7.63	12.98	16.03	9.92	7.63	29.01	100.00
		52.38	55.56	37.78	50.00	48.15	55.56	58.46	50.97
Total		42	18	45	42	27	18	65	257
		16.34	7.00	17.51	16.34	10.51	7.00	25.29	100.00
		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Income levels of Internet banking users and non-users (amounts in Thousand).

Internet Banking	Monthly income of participants					
	Less than 100 MWK	100 - 250 MWK	251- 350 MWK	351-500 MWK	Above 500 MWK	Total
No	3 60.00 2.38	11 57.89 8.73	36 52.94 28.57	47 53.41 37.30	29 37.66 23.02	126 49.03 100.00
Yes	2 40.00 1.53	8 42.11 6.11	32 47.06 24.43	41 46.59 31.30	48 62.34 36.64	131 50.97 100.00
Total	5 100.00 1.95	19 100.00 7.39	68 100.00 26.46	88 100.00 34.24	77 100.00 29.96	257 100.00 100.00

2.0 Collinearity statistics

Variance Inflation Factor for the continuous variables

Variable	VIF	1/VIF
Perceived Usefulness	1.59	0.628649
Attitude	1.52	0.657311
Intention to use	1.41	0.708212
Perceived Security & Trust	1.38	0.725112
Service Awareness	1.28	0.779413
Perceived Ease of Use	1.20	0.833747
Social Influence	1.14	0.874251

Results of regression analysis

Internet Banking User	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Usefulness	-0.003484	0.007584	-0.46	0.646	-0.018422 0.011454
Attitude	-0.014102	0.009818	-1.44	0.152	-0.033440 0.005234
Intention to use	0.121551	0.005704	21.31	0.000	0.110316 0.132786
Security & Trust	0.006606	0.005540	1.19	0.234	-0.004305 0.017518
Service Awareness	0.012629	0.006120	2.06	0.040	0.000575 0.024683
Ease of Use	-0.004523	0.003860	-1.17	0.242	-0.012127 0.003080
Social Influence	0.009309	0.006303	1.48	0.141	-0.003104 0.021724